

STAFF REPORT: What to do about defective kits and parts

ICD 08285

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C-06-

1931 ALFA ROMEO GRAN SPORT 1/24

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ON THE COVER

Russian aircraft models — in any scale — are scarce, so Dan DiBacco's interest in the Soviet Union's air arm means he has to bring lots of creativity to the hobby. His Su-22 "Fitter-J" in 1/72 scale, the aircraft flown by "the other guys" (and shot down by U. S. F-14 Tomcats) in the 1981 Gulf of Sidra Incident, embodies that creative approach. Dan's article starts on page 34. Photo by FSM Staff Photographer A. L. Schmidt.



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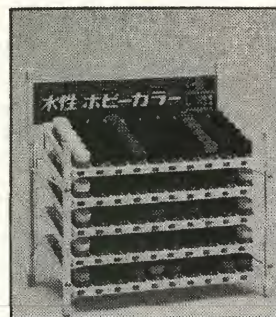
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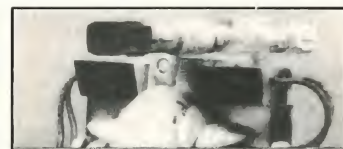
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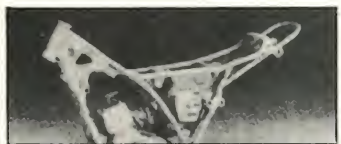
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FSM UPDATE

FSM invites manufacturers and publishers to submit news releases, photos, product samples, and new catalogs. A description of our new-product announcement and review policies is available from FSM Update, FINESCALE MODELER, 1027 North Seventh Street, Milwaukee, WI 53233.

Kit releases. Amherst Miniatures, 917 North Terrace Lane, Ypsilanti, MI 48197, is importing 1/96 ship kits with fiberglass hulls. Included in this line from Dean's Marine of Peterborough, England, is the H. M. S. Hardy, a Type 14 Blackwood Class A/S Frigate, \$120.00 postpaid.

ATP Incorporated, 3014 Abelia Court, San Jose, CA 95121, is offering the Airliners America 1/144 DHC-7, \$15.00.

The most recent vacuum-formed kit from Falcon Industries, P. O. Box 10-213, Wellington, New Zealand, is a 1/48 Messerschmitt Bf 109B/C.

Jielge Models, c/o Jean Luc Ganivet, B. P. No. 21, 74120 Megeve, France, has announced new 1/43 automobile kits, including a Ferrari 250 LWB Zagato based on a 1957 0665 GT; Alpine M 63 that builds into nine versions; Matra Jet 5/6 berlinette; 1962 Ferrari 246 SP Targa Florio; and 1969 Alpine A 220 Renault. These kits are available from The Mini Garage of Stuart Schaller, 1241 North Fairfax, No. 1, Los Angeles, CA 90046.

KP Model of Czechoslovakia has released a 1/72 Supermarine Spitfire Mk. LF IXE.

KPL Models, 703 Cannon Road, Silver Spring, MD 20904, is offering two new 1/72 kits, a Fiat CR.25 Italian World War Two bomber and an Amiot 354 French WWII bomber. Each sells for \$7.95 plus \$1.50 postage; send a stamped, self-addressed envelope for a catalog.

Leoman Kits has introduced its first resin injection-molded kit, a 1/72 Su-22 Fitter-F. It is available for \$22.99 postpaid from R. V. F., P. O. Box 107, Burbank, CA 91503.

Kit No. 6 from Merlin Models is a 1/72 Breguet Br.14 B2. To order, send \$7.00 plus \$1.50 postage to Americal/Gryphon, 4373 Varsity Lane, Houston, TX 77004.

Minicraft Models, Inc., 1510 West 228 Street, P. O. Box 3577, Torrance, CA 90510, has released its first two 1/48 kits produced in Korea. Kit No. 1603 is an AH-1G Huey Cobra and 1604 is an HU-1B Tow Huey. Suggested retail prices are \$4.50 for 1603 and \$5.50 for 1604.

The first vacuum-formed kit produced by G. Philippe of Modelair, 81, rue J. d'Arc, 54000 Nancy, France is a 1/48 S. O.-6025 Espadon. It sells for Fr156 (approximately \$18.40) plus Fr50 (approximately \$5.90) for postage.

Monogram Models, Inc., 8601 Waukegan



Road, Morton Grove, IL 60053-2295, has introduced a 1/48 B-58 Hustler, No. 5704, and two 1/8 automobile kits: 2609, Golden "T" street rod, and 2610, 1985 IROC-Z Camaro. Recent 1/24 auto releases include 2708, IMSA Ford Mustang GTP; 2709, 7-Eleven Ford Mustang GTP; 2710, Billy Meyer's 7-Eleven Ford Mustang funny car; 2711, Don Prudhomme's Trans Am funny car; and 2712, Miller Warrior Trans Am funny car.



Also new are four 1/24 Snap Tite kits: No. 1409, 1985 Camaro Z-28E; 1410, 1985 Corvette coupe; 1411, 1985 Shelby Charger turbo; and 1412, Miller/Datsun pickup.

New from PM Plastic Model, P. K. 133, Bakirköy, Istanbul, Turkey, is a 1/48 Siat 223 Flamingo, kit No. 006.

Recent releases from Revell, Inc., 4223 Glencoe Avenue, Venice, CA 90292, include No. 4023, 1/100 F-105D Thunderchief; 4024, 1/100 A-7A Corsair II; 4025, 1/100 A-6A Intruder; 4585, 1/48 B-25 Mitchell; 4757, 1/48 B-17F Flying Fortress; and 7443, 1/16 Giant Tracks Chevy pickup.

The Testor Corporation, 620 Buckbee Street, Rockford, IL 61108-4891, will introduce 12 kits in October, including a 1/720 aircraft carrier, U. S. S. Carl Vinson, stock No. 896, \$12.00, and 3 1/72 aircraft: No. 698, B-57B Canberra, \$9.00; 699, B-25C Mitchell, \$6.00; and 879, Douglas DC-3, \$9.00. A 1/48 Hughes 500MD Defender (339, \$6.00) is planned, as are 3 releases in the 1/35 military series: 742, antitank crew, \$3.75; 820, Leopard II Main Battle Tank, \$12.00; and 889, weapons assortment, \$3.75. The final 4 releases are 1/24 cars: 382, DeTomaso Pantero, \$10.00; 383, Porsche 959, \$10.00; 384, Ferrari 308 GTB, \$13.00; and 832, Bugatti Royale, \$8.00.

Twentieth Century Imports, 4732 East Pearl Street, Boulder, CO 80301, is distributing nine kits in the new 1/48 WWII armor series from Bandai. Available are No. 8221, 105 mm Wespe; 8226, Opel Maultier truck; 8258, Nashorn antitank gun; 8260, Jagdpanther; 8264, 76 mm Sherman M4A3; 8270, Panzer IV Ausf H; 8273, T-34/76 medium tank; 8283, M-13 gun carriage; and 8284, Willys Jeep. Twentieth Century's new catalog (in color) is \$2.00.

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#48-5 F-106A, 191st FIG, MICHIGAN ANG. \$3.75
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A mid-November release date is planned for a vacuum-formed Hanriot HD-1 from Vintage Aero Models, 6427 Hillcroft, No. 125, Houston, TX 77081. Included with this 1/48 kit will be decals and cast lead parts.



Williams Bros. Inc., 181 Pawnee Street, San Marcos, CA 92069, has introduced the first kit in its planned series of 1/48 Golden Age lightplanes, a Corben Super Ace, \$4.95; add 15 percent for postage.

Decals. Three new 1/144 decal sheets have been released by ATP Incorporated, 3014 Abelia Court, San Jose, CA 95121: United Airlines markings from 1950 for the Boeing Stratocruiser (sheet No. AD5051), Convair 340 (AD5052), and Douglas DC-6B (AD5053). These sheets cost \$3.00 each and are designed to fit the Airliners America/Atlantic Models resin-foam kits (also available from ATP).

Microscale's latest 1/72 releases from Krasel Industries, Inc., 919 Sunset Drive, Costa Mesa, CA 92627, include F-15 Eagle data and codes (sheet No. 72-488); F-14A Tomcats from VF-21, VF-33, and VF-154 (72-489); Carrier Air Wing 11 (72-490); and A-7s from Arizona, Colorado, New Mexico, and Virginia Air National Guards (72-491). Sheet 72-492 has markings for F-4 Phantoms from Michigan, Ohio, and Texas Air National Guards. Carrier Air Wing 14 is featured on sheet 72-493, while VFA-131, VFA-132, and Canadian 409 Squadron F-18As are the subjects of 72-494. More aircraft from Carrier Air Wing 14 make up sheet 72-495.

In 1/48, Microscale features McDonnell Voodoos from Canada's 416 Lynx Squadron and USAF's Air Defense Weapons Center on sheet No. 48-263. The spectacular "Hawk One Canada" and an EF-101B from 414 squadron are on 48-264. Sheet 48-265 has markings for "The Witch," "The Goon," and "Liberandos," all B-24D Liberators. Vought F-8 Crusaders from VMFA-321 and VMFA-451 are on 48-266. Markings for F-14A Tomcats from VF-21 and VF-33 are on sheet 48-267, while another variation of VF-33's F-14 markings and a Tomcat from VF-154 are featured on 48-268. F-105Ds from 23, 301, and 355 Tactical Fighter Wings are the subjects of sheet 48-269. Carrier Air Wing 11's VF-213 Phantom and VA-95 A-6 Intruder make up sheet 48-270.

Figures. Artistic Enterprises, 9 Winston Crescent, Whitby, ON, Canada L1N 6Y3, now carries the line of 25 mm fantasy figures from Julian Benassi, painted or unpainted. A free list is available.

New from Grenadier Models, Inc., P.O. Box 305, Springfield, PA 19064, is the Chaos Dragon set. This \$7.95 set includes a giant chaotic dragon and two possessed dwarves.

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Piper Craft, 4 Hillside Cottages, Glenboig, Lanarkshire ML5 2QY, Scotland, is offering three new 75 mm figures: No. PC/1, Russian infantryman, 1844-1854; PC/2, Turkish infantryman, 1840-1854; and PC/3, private, Scots Fusilier Guards, 1854. Each sells for \$5.75 (approximately \$8.00); customers from the United Kingdom should add 10 percent for postage and overseas customers should add 30 percent.

Six new sets of 15 mm figures are offered by Quality Castings Inc., P. O. Box 11714, Alexandria, VA 22312: No. 1100, Japanese infantry; 2100, British infantry advancing; 2101, British infantry defending; 2102, British infantry company and platoon weapons; 2103, British infantry headquarters company; and 2104, British infantry gun crews. Each set of 15 unpainted figures sells for \$3.25. Postage for one to six items is \$2.50; ask about postage rates if ordering additional items.



Rafm Company, Inc., 19 Concession Street, Cambridge, ON, Canada N1R 2G6, has introduced 6 sets of 25 mm figures in its "Armies of the Hellenistic Period" series, as well as 19 sets of figures in its "Armies of the Caesars" range. Each set sells for \$4.00.



Republic Miniatures, P. O. Box 427, Philippi, WV 26416, sells a 1/32 (54 mm) series of soldiers of the Alamo. Each toy soldier is individually priced at \$9.00.

Charles A. Muñana of Taxdir Miniatures, Casado del Alisal, 10, Madrid 28014, Spain, has released six new 1/48 metal figures: No. A/5, U.S. tank crewman, 1944; A/6, GI, 1944; A/7, "Tommy," 1943; A/8, German fighter pilot, 1942-1945; A/9, German tank crewman (upper body only), 1939-1942; and A/10, German driver/mechanic, 1942-1945. Each is priced at \$3.50 (including surface shipment) except for A/9, which is \$1.75.

Accessories and diorama materials. Croydon Impex, 6 Waid Terrace, Farm Road, Anstruther, Fife KY10 3EZ, Scotland, is distributing a 1/76 RAF pneumatic service trolley produced by AGL Modelcrafts. This product, No. GE7601, sells for £2.50 (approximately \$3.50). Surface mail postage is included; add £1.00 (approximately \$1.40) for airmail. MasterCard is accepted.

New items in the series of 1/108 (approximately 15 mm) metal weapons and equipment from Quality Castings Inc., P. O. Box 11714, Alexandria, VA 22312, include No. 2011, reworked turret for the Sherman VC Firefly tank, \$1.50; 3012, 76 mm AT gun M42, \$4.25; 3013, Russian KV 85 heavy tank, \$4.75; 4017, German Wespe 105 mm SP artillery, \$4.25; 4025, six-barrel 15 cm

Nebelwerfer, \$4.25; 4026, 88 mm Flak 36, \$5.75; 6043, U.S. Hawk missiles with launcher, transporter, radar, and crew, \$16.75; 6044, U.S. Honest John on launcher with crew, \$14.75; 6045, Nike Ajax with launcher and crew, \$12.75; and 6046, M42 Duster, \$9.75. Add \$2.50 postage for one to six items; write for postage rates if ordering more than six items.



Tools. Foredom Electric Company, Bethel, CT 06801, is offering a deluxe woodcarver's kit, No. 2284, for \$280.00. For details ask for sheet 305.

New from Harry B. Higley & Sons, Inc., 433 Arquilla Drive, Glenwood, IL 60425, is a solid carbide rotary file which fits in a Dremel tool. It sells for \$3.99.

The 9555 magnifier from Tasco, P. O. Box 520080, Miami, FL 33152-0080, has a 2 1/4" lens mounted in a clear plastic body. Its suggested retail price is \$8.95.

Woodland Scenics, P. O. Box 98, Linn Creek, MO 65052, has introduced a dry-transfer burnisher, product No. DT600, \$2.98.

New from X-acto, 45-35 Van Dam Street, Long Island City, NY 11101, is the X-Press, which has a knurled release mechanism in the rear of the knife to allow the blade to become engaged or disengaged while you keep your fingers away from the sharp blade edge. The handle is the same size and weight as the No. 1 knife and it accepts the same blades. Also new is an 8" replaceable-blade scissors with an extra set of blades. It has curved blades with honed stainless steel edges.

Catalogs. CRT Enterprises, 5712 Lemp Avenue, North Hollywood, CA 91601, offers a free catalog which features military miniatures and toy soldiers.

Free from Foredom Electric Company, Bethel, CT 06801, are a power tool catalog (No. 243) and an accessory catalog (290).

Three catalogs are available from Riverside Hobbies, 5770 Freeport Boulevard, Suite 16, Sacramento, CA 95822. The complete 49-page catalog (\$2.00) lists aircraft, armor, car, motorcycle, truck, science-fiction, and ship kits, as well as paints and supplies, books, and Microscale decals. In addition, there are two specialty catalogs: A 14-page catalog (\$1.00) lists domestic and imported car, truck, and motorcycle kits, while a 32-page catalog (\$1.50) lists domestic and imported science-fiction kits, as well as paints.

Zenith Aviation Books, Box 1, REV, Osceola, WI 54020, has released its 1986 book catalog. This free, 40-page catalog lists 2,000 books, including more than 400 new titles.

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- ☐ A7 1/32 & 1/48 (red)
- ☐ A8 1/72 scale (red)

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- ☐ S21 Airfield Tarmac Section #1: 1/72 (8" x 11") \$3.50
- ☐ S22 Airfield Helicopter Pad #2: 1/72 (8" x 11") \$3.50
- ☐ S41 Detailed Scale Plans for F-104: Big 1/32 scale \$4.50
- ☐ S42 Detailed Scale Plans for F-16: Big 1/32 scale \$4.50

PHOTO-ETCHED METAL ACCESSORIES: 1/35 (except E41)

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- ☐ E21 Bannisters, Ornaments, Guard Rails, etc \$4.95
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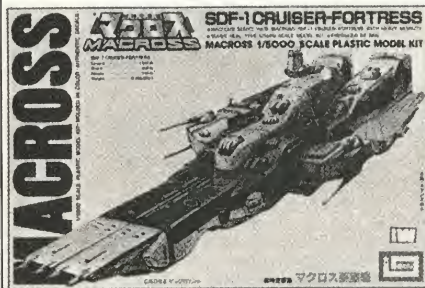
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Miscellaneous. Danny Alvarado Scale Limousines, P. O. Box 23010, Los Angeles, CA 90023, sells 1/24 plans for the Mercedes-Benz 500 SEC, a custom-built stretched limousine. The postpaid price is \$10.00.



Charette Corporation, 31 Olympia Avenue, P. O. Box 4010, Woburn, MA 01888, has introduced a scale model camera that uses Polaroid Type 667 film for 3 1/4" x 4 1/4" black-and-white prints. It sells for \$650.00 plus \$25.00 postage.

A one-year subscription to *Fire Apparatus Journal* costs \$12.00 in the U. S., \$15.00 outside the U. S.; foreign subscriptions must be paid in U. S. funds. A sample issue is available for \$3.00 plus \$1.00 postage. This quarterly magazine is published by Fire Apparatus Journal Publications, 82-06 149th Avenue, Howard Beach, NY 11414.

Drawings of the U. S. S. *Tennessee* BB43 as of January 1945 are available from The Floating Drydock, c/o General Delivery, Kresgeville, PA 18333. A 1/8" = 1' (1/96) set sells for \$25.00, while a 1/16" = 1' (1/192) set sells for \$13.00. Also new is a set of 1/72 drawings of the U. S. S. *LST542*, \$20.00; a 1/144 set sells for \$10.00. The next releases planned are 1/8" = 1' and 1/16" = 1' drawings of the U. S. S. *Arizona* BB39 as of December 7, 1941.

The Jones Collection, 1876 104A Street, Edmonton, AB, Canada T6J 5A4, offers 1/16 commercial vehicle drawings on 33" x 24" sheets. Subjects include antique and modern American and European vehicles.

Dampf-Bild from Mikros Corporation, 511 South 11th Avenue, Minneapolis, MN 55415, is designed to simulate smoke, steam, or diesel locomotive exhaust in your photographs. Each kit contains four different colored, semitransparent photographic gels; adjustable filter plate; filter holder; and a ring adapter which fits any 35 mm SLR camera. It is priced at \$40.00 plus \$2.50 for postage.

Insta-Bench stud jaws, with which you can make a workbench or table, are available for \$14.95 postpaid from National Marketing Plus, Inc., 942 East Alosta, P. O. Box 986, Azusa, CA 91702.

Scale Sports, 8411 Bayou Pine, No. A-2, Houston, TX 77040, is offering No-Prints hobby gloves. These 100 percent nylon gloves sell for \$2.00 postpaid for the first pair and \$1.75 for each additional pair.



A compact workbench is available from Workshop Concepts, P. O. Box 860, 117 Main Street, Andover, NJ 07821. It features a pinable Homasote top over a particle board base; pegboard riser and side panels; snap tab tool holders; parts bins with dust covers; and covering film holder. It sells for \$169.95 plus 10 percent for shipping.

Coming events. An exhibition of model cars sponsored by Museo del Modellismo Storico will be held during September, October, and November at the club's headquarters, Via Dei Romei 24, 44100 Ferrara, Italy (about 70 miles south of Venice).

The Edward "Butch" O'Hare IPMS chapter is sponsoring an invitational exhibition and swap meet October 5 from 8:30 a.m. until 6 p.m. at the Elk Grove Village (Illinois) VFW Hall, 400 East Devon Avenue. For details call Art Tupper during the day at (312) 325-2242.

IPMS/Dayton will host the Region IV Invitational October 11 and 12 at Stouffer's Dayton Plaza Hotel, East Fifth and South Jefferson, Dayton, Ohio. The convention will include a model contest and an open house and tours at Wright Patterson Air Force Base. More information is available from IPMS Dayton Fall '85 Invitational, c/o Billy Crisler, 160 Apricot Lane, WPAFB, OH 45433.

A model car and literature swap meet will be held October 13 from 8 a.m. until 4 p.m. at Bopper's Drive-In, Gary and Geneva Road, Wheaton, Illinois; admission is \$1.00. It is sponsored by the Chicago on Wheels Car Club. Further details are available from Tom Lima Jr., 1933 North Sedgwick Street, Chicago, IL 60614, or call (312) 642-5131 after 6 p.m.

The eighth annual Historical Scale Models Association invitational contest of plastic scale models, sponsored by the Rochester chapter of the IPMS, will be held October 13 from 11 a.m. until approximately 5 p.m. at the "40 & 8" Club, 933 University Avenue, Rochester, New York. Admission is 50 cents for those 12 and over not entering the contest. A per-model fee of \$1.00 for adults and 75 cents for juniors will be charged. For information contact Cliff Wiley, 799 Liberty Street, Penfield, NY 14526, (716) 381-6103.

The Chicago Model & Hobby Show, originally scheduled for October 4-6, will now be held October 16-18 at the O'Hare Expo Center, Rosemont, Illinois.

The 1985 regional convention, sponsored by the ARM/AIR Chapter, IPMS/Salisbury, will be held October 19 at the Salisbury (North Carolina) Civic Center. For details write to Sam Morgan, 223 North Rowan Avenue, Spencer, NC 28159, or call him at (704) 636-1250.

Modelfest '85, sponsored by the Austin Scale Modelers Society, will be held October 26 at Camp Mabry, West 35th Street and MoPac Expressway, Austin, Texas. There is an entry fee of \$2.50 per model for adults and \$1.50 per model for juniors; admission is free. More information is available from Tom Eisenhour, P. O. Box 3313, Austin, TX 78764-3313.

The Capitol Miniature Auto Collectors Club will hold its fall meet November 3 from 9 a.m. until 2 p.m. at the Dunn Loring Volunteer Fire Department Community Hall, 2148 Gallows Road, Fairfax, Virginia. Admission is \$2.00 for those 12 and over. For a detailed map send a large stamped, self-addressed envelope (with the notation "Map") to Charles F. Wilding, 10207 Greenacres Drive, Silver Spring, MD 20903.

A model car contest will be held at the Indiana State Fairgrounds November 8-10. For information send a stamped, self-addressed envelope to Dave Williams, Hoosier Model Car Association, 5925 North Rosslyn, Indianapolis, IN 46220.

Baycon III, a model and figure show and competition sponsored by the Bay Colony Historical Modelers Association, will be held November 17 from 10 a.m. until 6 p.m. at the Knights of Columbus Hall, South Attleboro, Massachusetts. For details send a large stamped, self-addressed envelope to J. M. McDonald, Baycon III, 70 Madison Road, Swansea, MA 02777.

The Governor Calvert House in Annapolis, Maryland, will be the site of a toy soldier show December 7 from 10 a.m. until 5 p.m. For information write to the Annapolis Toy Soldier Show, c/o The Ship Shop, 75 Maryland Avenue, Annapolis, MD 21401.

The Toys for Boys Swap Meet, sponsored by the Miniature Vehicles Association of Wichita, will be held April 13, 1986, at the Broadview Hotel, 400 West Douglas, Wichita, Kansas; admission is free. For details write to Toys for Boys, 1205 West 57th North, Wichita, KS 67204.

Corrections. An out-of-date address for Cpl. Tuna's Supply Company was listed in the 1985-1986 new figure release report (September/October 1985 FSM, page 6). The correct address is 6029 South Sheridan, Tulsa, OK 74145.

The correct price for U. S. Air Force tech order T. O. 1-1-4 (FSM Clinic, September/October 1985, page 26) is \$12.72. Make your check or money order payable to the Air Force Finance Officer.

Modeling club news. While response has been good to our request for information about modeling organizations, we want the list we publish in our January/February 1986 issue to be as complete as possible. Club presidents or secretaries should submit the following information to FSM Update no later than October 15: name of organization and publication; frequency of publication; areas of interest; complete address for the club; and name, address, and phone number of a contact person.

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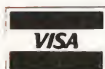
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Kit: No. 7307, U. S. S. *Enterprise*

Scale: 1/350

Manufacturer: MRC-Tamiya, Model Rectifier Corporation, Edison, NJ 08817

Price: \$139.95.

THIS IS THE LARGEST of Tamiya's range of 1/350 scale ships, following close on the heels of its U. S. S. *New Jersey*. The *Enterprise* was the first nuclear-powered aircraft carrier, launched on September 24, 1960. She saw service in the Cuban blockade and off the coast of Vietnam and went through a major refit during 1979 to 1981, losing the large fixed-array radar panels and the "beehive" ECM dome on the island. The refit also included the installation of three Phalanx guns and additional Sea Sparrow missile launchers.

MRC-Tamiya's kit contains 576 parts molded in medium gray styrene, with 40 aircraft (F-14, F/A-18, S-3, A-6, A-7s) molded in light gray. Additional aircraft are available in sets of 10 (kit No. 7306). Unfortunately, there are no E-2 Hawkeyes, EA-6B Prowlers, or SH-3 Sea King helicopters, but those and F-4 Phantoms will be in a future aircraft set. The 28-page instruction booklet is well illustrated, easy to follow, and includes background on some of the ship's features.

Considering the scale, the detail is excellent. Even the aircraft have panel lines and separately molded landing gear. The kit represents the *Enterprise* after her refit with the smaller island and weapons update, and features dozens of life-raft containers and fire-hose reels on the edges of the flight deck. The hull is molded in two pieces, and the bow is attached to the remainder of the hull with flanges and two small bolts (one is hidden behind a sponson, but the head of the other has to be filled and sanded). Three metal braces span the main hull (see detail photo), and nylon monofilament is provided for the arresting cables. The flight deck is molded in three parts: bow, midsection, and fantail.

Two seams on the flight deck and the one on the hull are the only major construction problems. Attaching the flight deck presents a "catch 22" problem — do you follow the instructions and glue on the forward section, attach the aft section (with tabs into a metal brace), and drop the center section in place (with screws to another metal brace), or do you assemble the deck separately, fill the seams, sand, and paint before attaching it to the hull? If you follow the instructions, you'll have to go through these steps with the hull attached, making it diffi-



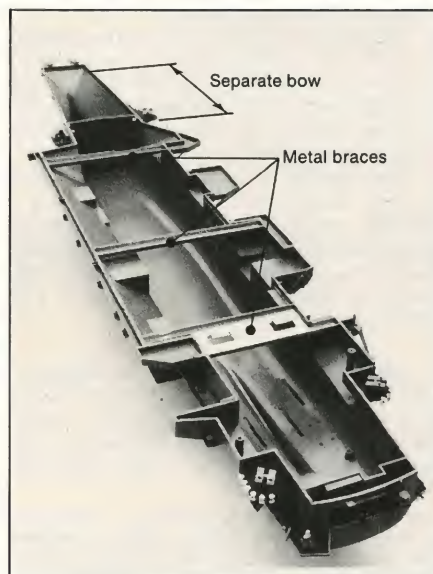
All photos, FINESCALE MODELER A. L. Schmidt unless otherwise credited.

cult to handle. If you choose the latter method, you won't be able to attach the rear tabs to the metal brace. I chose the second method and chopped off the tabs, relying on super glue to hold the deck to the hull.

The fit of the parts is excellent, particularly the island side panels with their mitered corners. The island consists of 85 parts, including all the radar and communication antennas.

Painting this behemoth posed some problems — only a few of the deck markings are provided on the decal sheet. The large deck number 65, white landing area borders, and the segmented red and yellow warning stripes around the elevators have to be painted on. These, along with hundreds of tiny circles — tie-down fittings — are represented by raised lines to aid painting. I first painted the white, yellow, and red deck markings, and covered them with a liquid masker, but I found the masker couldn't easily be removed from flat paints. I ended up stripping all this off, painting the dark gray deck color, then painting the markings over it, masking with frosty tape.

Although current air wings feature low-visibility markings, some of the squadron markings would be visible in this scale. MRC-Tamiya provides only U. S. insignia and "NAVY" in two sizes for the aircraft. The F-14s have their wings molded swept back for deck storage. These can be cut off and replaced with alternate swept-forward wings. The rest of the aircraft have wings unfolded, so if you want to show a realistic operation on deck, you will have to cut off the wings of most of the aircraft and reattach them in the folded position.



The finished model is awesome — 39" long and 11" wide. I decided not to paint most of the parts that were labeled "hull color" to save time. Even with that, I spent about 70 hours on the model, nearly 10 hours on the aircraft alone. The model compares well with the photos and information in Norman Polmar's *The Ships and Aircraft of the U. S. Fleet*.

This kit is not difficult to build, but it is time-consuming. The excellent fit and ease of assembly will be appreciated by novices, but the sheer volume of work may discourage those with little patience. *Paul Boyer*

THE LUFTWAFFE IN 1/72 SCALE

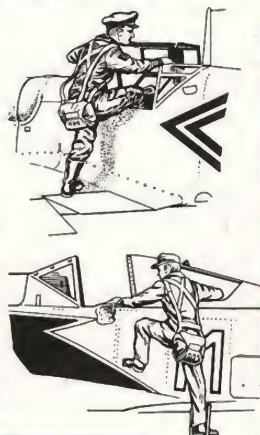
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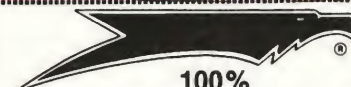
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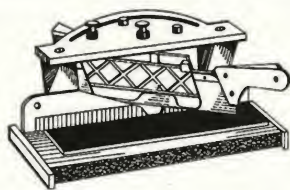
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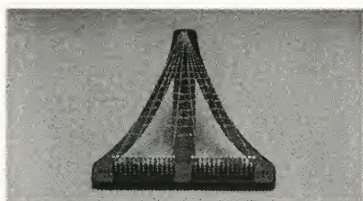
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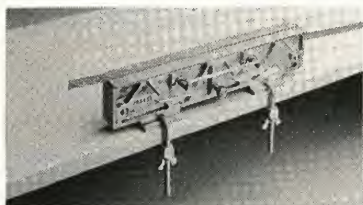
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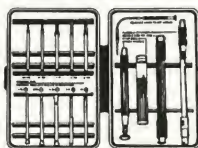
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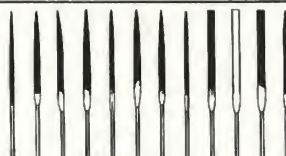
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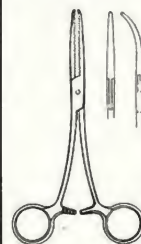
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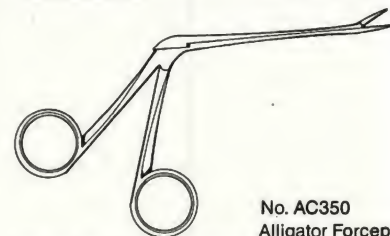
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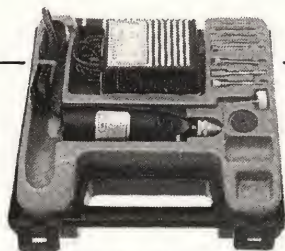


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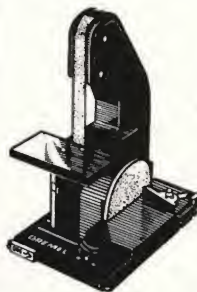
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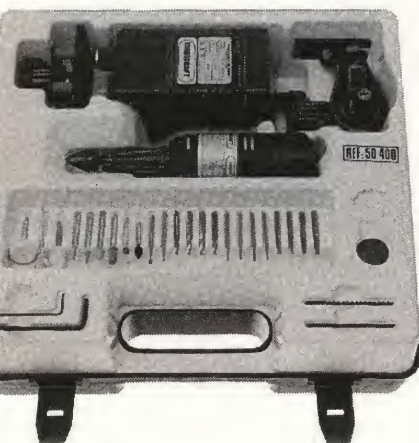
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Kit: No. 24109, Kröte, Panzer Aufklärungs T.W-47

Scale: 1/20

Manufacturer: Nitto, distributed by Twentieth Century Imports, 4732 East Pearl, Boulder, CO 80301

Price: \$27.95.

THE CONCEPT BEHIND the S. F. 3-D kits is World War Four and a rebirth of the Wehrmacht in the year 2807. The uniforms of the 1940s have returned and so have some of the familiar German weapon names: Gustav, Hornisse, and Fledermaus. The Kröte is a two-legged walking tank with a four-barrel rotating cannon as its main armament.

The kit's 163 tan styrene parts show above-average detail, similar to current armor kits. Also provided are brass rod, tightly wound coil springs, rubber-coated wire, and a photoetched metal radar screen. The decal sheet includes unit markings, numbers, and warning stencils. The six-page instruction sheet is well illustrated with part numbers only, but the locations of some of the parts (seven C-18 nut-bolt-washers) are vague. The clear spotlight lens was missing from my kit, so I used Micro Kristal-Kleer in the slot of the lens cover.

The kit went together well, with only a little putty on the seams of the turret and the headlight assembly to give them the smooth, cast appearance. I attached the metal parts to the plastic with super glue. The nine-piece human figure is not as well molded as the machine. I used the optional one-piece shock absorbers instead of assembling the seven-part operating shocks included in the kit. A painting guide is included with three side-view drawings, but



since this is science fiction, you can paint the model any way you want.

I had a ball building the model — I could have added more detail and let my imagination run wild with diorama ideas, too. I spent 24 hours building it; modelers with a little experience should enjoy it. The finished model stands 6½" high and looks spectacular next to "normal" armor models.

Joe Hively

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Kit: No. 80315, Douglas DC-6B

Scale: 1/72

Manufacturer: Heller, distributed by Polk's Model Craft Hobbies Inc., 346 Bergen Avenue, Jersey City, NJ 07304

Price: \$12.95.

HELLER'S DC-6 joins its earlier Constellation in 1/72 scale collections of classic airliners. This kit has 90 parts molded in silver, white, and clear styrene. All the panel lines are recessed except for the engine nacelles, which have raised details.

Overall, the quality of the molding is good, but the silver plastic parts have a curious pebbly texture that presents problems when finishing the model in a bare-metal scheme. The white fuselage parts don't have this texture. The instructions are multilingual and easy to follow. Markings for

Scandinavian Airlines and UTA are featured on the well-printed decals.

For a large kit, the DC-6 went together easily. Getting rid of the sinkholes in the cowlings without rubbing out the raised detail was tricky. The interior has only pilot's and copilot's stations, but after the model is finished, little else can be seen through the small windows. I used the kit clear parts for the large square windows and Micro Kristal-Kleer for the smaller windows and ports. Plenty of weight has to be added to the nose to keep the model on the tricycle gear. The fragile nose gear strut must be installed before the fuselage halves are joined, and great care must be taken to keep from snapping it off while finishing the model. The main landing gear is sturdy but I had to make sure that the wheels were properly aligned. The decals were thin and



conformed to the panel lines perfectly. I spent only 8½ hours on my model. The 17⅞" length and 19½" wingspan compare well with the dimensions found in *The Illustrated Encyclopedia of the World's Commer-*

cial Aircraft, and the completed model is an impressive addition to my collection. Because of its size and ease of assembly, I feel this kit is ideal for a novice's first big model. *Randy Fields*



E. R. Staszak

Kit: Bristol Britannia

Scale: 1/72

Manufacturer: Airways Vac Form, 3 Calton Road, New Barnet, Herts. EN5 1BY, England
Price: \$15.50.

DEVELOPED AS an airliner for B.O.A.C., the Britannia also saw service with other airlines and the Royal Air Force. The large turboprop aircraft did not see the success of the pure jets that followed.

This kit contains 57 parts vacuum-formed in .030" white styrene sheets, a clear canopy, and injection-molded props and landing gear struts. Decals for a B.O.A.C. machine are well printed and the instructions include photos of real Britannias but little specific information on assembly. The plastic foam packaging kept the kit in perfect condition and should be considered by other vacuum-formed kit manufacturers.

The quality of the moldings was above average for a vacuum-formed kit of this size, but the clear cockpit section suffered from heavy framing and not enough clearance between the windows and the edge, making it difficult to smoothly blend it into the fuselage. The injection-molded props were poorly molded so I chose to scratchbuild replace-

ments from sheet styrene. The injection-molded landing gear struts were better, but still needed extra detailing. There were no bulkheads or templates to reinforce the large fuselage—I had to make my own. The vertical stabilizer is too slab-sided and the trailing edge is too blunt.

The fit of the parts was generally good except for the nacelles to the wings. Each nacelle has an area to be cut away, resulting in slots to fit around the wings. This system is tricky, though, and required a lot of test fitting. I also cut open the annular intakes surrounding the prop spinners. The exhausts on top of the nacelles were misshapen and nearly impossible to fix, so I put sheet styrene covers over them. I solved the canopy problem by vacuum forming a new one based on the one provided in the kit. I reshaped the trailing edge of the wing tips, which lacked the Britannia's characteristic curve. Instead of using the kit-provided B.O.A.C. decals, I robbed my spares box for R. A. F. markings.

The finished model scaled nearly four feet short in span and two feet short in length according to the information in the instructions and in *Air Enthusiast* No. 20. I spent 70 hours building this kit—definitely not one for beginners. *E. R. Staszak*

Kit: Focke Wulf Fw 44 Stieglitz

Scale: 1/72

Manufacturer: Huma-Modell, Kilianstädter Strasse 9, 6450 Hanau 6, West Germany
Price: DM 17.00 (about \$5.75) plus postage.

THE INTRODUCTION of the Stieglitz into the inventory of the Focke Wulf company helped transform the firm into the powerhouse of the World War Two era. The popular Stieglitz was produced in large numbers in Germany and under license in other nations in Europe and Latin America.

Huma-Modell is new to the modeling scene and the company's first effort is quite

good. This kit contains 38 parts injection-molded in white and clear styrene. Detailing is average with recessed panel lines, and I liked the simulation of the fabric-covered surfaces. The decals were well printed and only slightly out of register; nine different marking choices are given including German, Swedish, and Finnish military aircraft, along with four civil machines. Also included are standard wheeled landing gear and optional skis.

The instructions include two-view painting guidelines for all nine aircraft, but the drawings are too small to clearly show the location of the small stencil decals included

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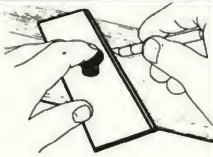
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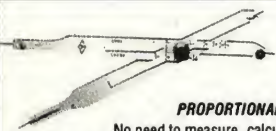
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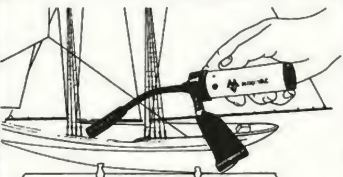
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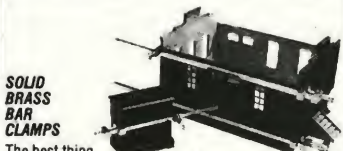
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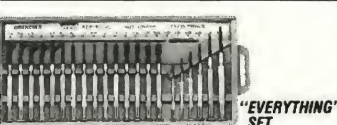
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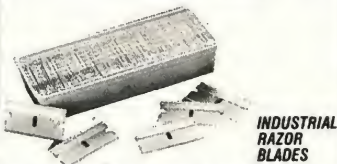
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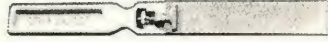
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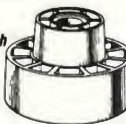


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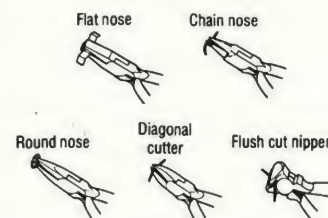
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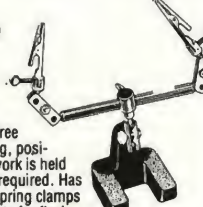
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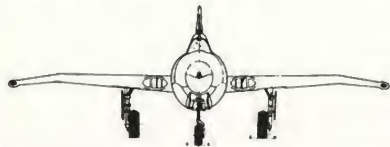
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on the sheet. The kit fit together well, but putty was needed between the fuselage and lower wing. There was flash on the wings, tail plane, and struts. The landing gear support strut (part No. 11) was poorly molded so I substituted wire. The cabane struts didn't quite match the holes for them in the upper wing. The instructions have the cockpit floor placed too low, so I moved it up.

After trimming off excess clear film, the decals went on well with the Microscale system. The finished model is little, just 4" long with a 5" wingspan. It scales correctly with the dimensions given on the instruction sheet. I worked 12 hours on it and modelers with a little experience should be able to handle the cleanup and strut problems easily.

Dennis Moore



Kit: No. 7A-F2, Aichi B7A2 Ryusei/Kai "Grace"
Scale: 1/72
Manufacturer: Fujimi Mokei Co., Ltd., 4-211 Toro, Shizuoka City, Japan
Price: \$8.00.

THE AICHI B7A Ryusei (Shooting Star) was designed as a replacement for both the Nakajima B6N "Jill" torpedo bomber and the Yokosuka D4Y "Judy" dive bomber. Although large for a Japanese carrier-based plane, it had excellent performance. The Allies were fortunate that only 105 were produced during the last year and a half of the Pacific war.

The kit contains 57 parts crisply molded in light gray and clear styrene with recessed panel lines. The instructions are divided into seven steps with exploded drawings and feature excellent painting and decaling directions. The decals include markings for only one aircraft.

Building the Grace was straightforward, except in the following areas: After I glued the fuselage together, I was faced with a

crack in the bulkhead behind the pilot's seat. Since there was no way to fill and sand this seam, I sprayed a piece of typing paper with the same cockpit blue that I had used on the interior of the fuselage, cut the paper to size, and then glued it into place using white glue. The tail wheel assembly did not fit well, so I used putty to fill the gaps. Putty was also used to fill the mold marks on the bottoms of the wheel well doors.

I found it easiest to paint the wings and fuselage before gluing them together. The fit here is excellent, and it made painting the yellow recognition markings on the leading edges of the wings much easier. The kit decals had no aircraft handling markings and took a long time to soak from their sheet, but they went on nicely with the Microscale system.

Fujimi's Grace took about ten hours to build and can easily be handled by a beginner. It's an excellent addition to my collection of World War Two aircraft, and compares well to the photos and statistics in R. J. Francillon's *Japanese Aircraft of the Pacific War*.

Dennis Moore

Kit: No. 2451, Honda Civic Hatchback
Scale: 1/24
Manufacturer: MRC-Tamiya, Model Rectifier Corporation, Edison, NJ 08817
Price: \$11.98.

second generation Civic, they decided to go beyond the basic "econobox" and produced a car which combines reasonable price with good handling, peppy performance, and sporty appearance.

Tamiya's kit of the Honda Civic Hatchback is molded in white, red transparent,

WHEN HONDA MOTORS designed the



Brian Gibbs

and plated plastic and totals 54 parts, including tires. The exterior detailing is typical of Tamiya — crisp and clean. No engine detail or opening hood is included. The kit features Japanese-style headlights, but has optional home (right-hand drive) or export (left-hand drive) instrument panels.

The kit is simple and straightforward to build, only the home versus export variants requiring preplanning. The instructions suggest Tamiya acrylic gloss gun metal (X-10) for the upper body and gloss aluminum for the lower body and bumpers. I mixed Floquil R100 Old Silver and R9 Primer Gray for the aluminum. I gloss coated the body sides, but left the bumpers in the matte finish. All trim was painted with Tamiya semi-gloss Black (X-18).

Decals are provided for a Japanese car, a

set of California plates, and a simple "Civic" plate. A digital dash panel is included — this must be an option in Japan, but you can't get it in this country, so I used the analog dash panel. It's tempting to paint the black trim inside the rear hatch, but the decal should be used, as the Honda name and symbol are printed so they show when the decal is applied on the inside of the hatch.

The kit fits together well, and is extremely accurate. There are minor trim differences between home and export Civic Hatchback models as sold in the U.S. The side trim has a series of decorative louvers which should be filled in to properly depict an export model. This is a nice kit, appropriate for modelers at all skill levels, and took only four hours to complete. My reference? The car parked in my driveway! *Art Loder*



Kit: Albatros W.4 Floatplane

Scale: 1/72

Manufacturer: Merlin, available from Americal/Gryphon, 4373 Varsity Lane, Houston, TX 77004

Price: \$5.25.

MERLIN IS a new company from England producing limited-run injection-molded plastic aircraft kits. Most of the subjects so far are World War One biplanes, and the Albatros W.4 is typical of that series. The kit contains 37 parts molded in white styrene, including the optional early Windhoff radiators and both early and late float designs.

The plastic is hard and brittle and the instructions caution you to cut the parts from the sprues rather than break them off, which could lead to shattered moldings. There are small dimples in the fuselage, floats, and wings indicating the location of the struts. The quality of the moldings is below average. There was a lot of flash on the parts, and I had to do a lot of filing and aligning to get the parts to fit properly. The instructions are basic with a rough three-

view drawing and a brief history of the aircraft.

The exhaust stack incorrectly goes through the right cabane strut (it should go in front of it), and the fuselage should be more slab-sided. I made my model into the late version with the radiator in the top wing (molded in) and added a stretched sprue coolant line down to the engine. I also added a cockpit floor and instrument panel from sheet plastic, and sanded the trailing edges of the wings to make the scallops a little more subtle.

The decals provide black and white Patee crosses only, but went on without any trouble. Although I painted the lozenge camouflage, Americal/Gryphon sells a decal sheet for the Kriegsmarine pattern.

The finished model comes close to the Harleyford drawings in *Fighter Aircraft of the 1914-1918 War*, but the accuracy of these drawings is suspect when compared with photos of the aircraft in the same book. I spent 32 hours building the model and, considering the fit and detail problems, I can only recommend it to experienced modelers.

Bill Gebhard

FSM

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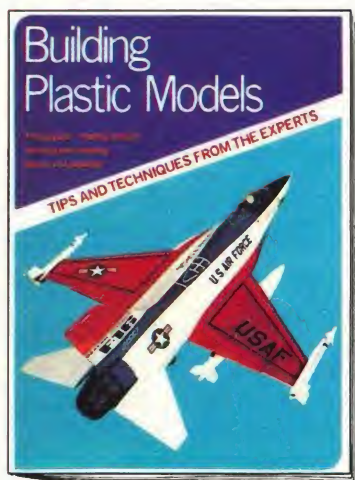
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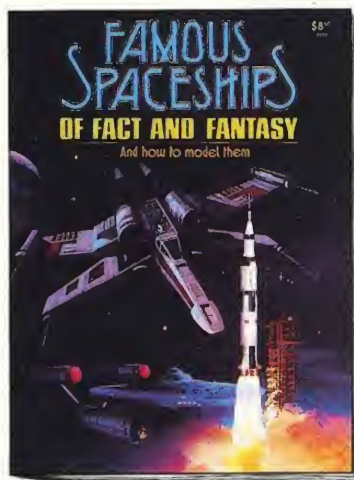
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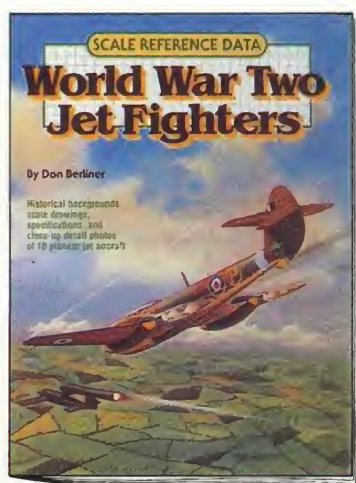
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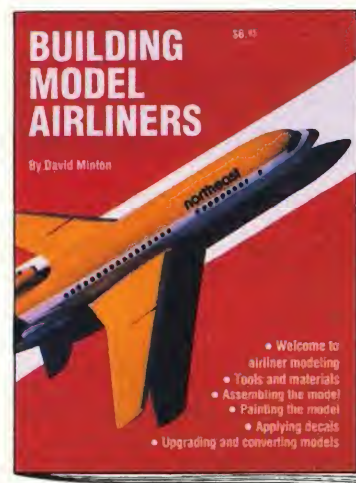
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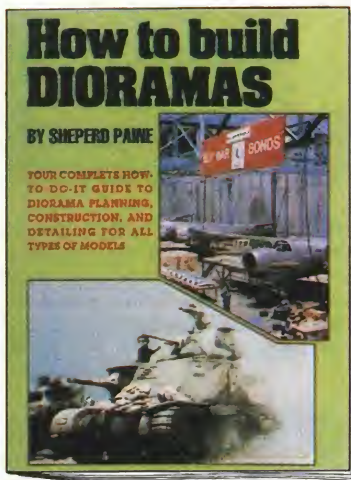
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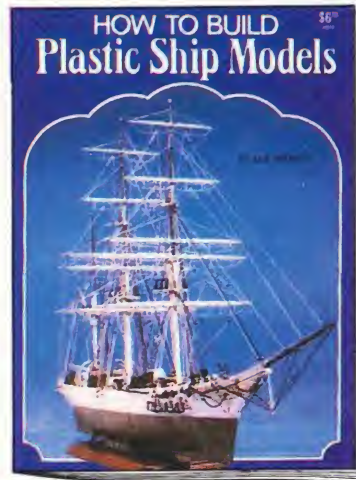
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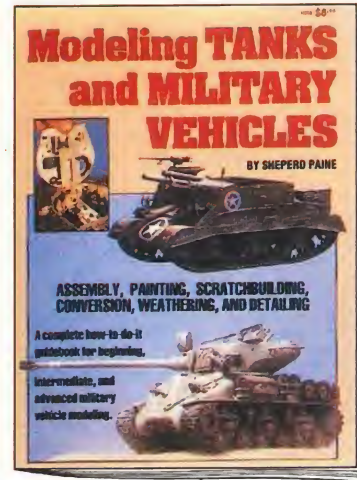
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FSM readers should check their local hobby shops for the items in this column before writing directly to the manufacturers.

FINESCALE MODELER staff photos by
A. L. SCHMIDT



75 mm figures

These four 75 mm metal figures are produced by Steel Bonnets, P. O. Box 2792, Plainfield, NJ 07062. From left are No. 75/6, Roman soldier, 5th century AD; 75/4, sharpshooter, 5th Georgia (Clinch Rifles), Confederate Army; 75/2, private, 44th Indiana Volunteer Infantry, western theater; and 75/5, Frankish warrior, 5th century AD. Each sells for \$12.95 plus 10 percent for postage and handling. Steel Bonnets also has announced plans to release No. 75/9, Berdan's sharpshooter, Union Army.



1/72 scale aircraft accessories

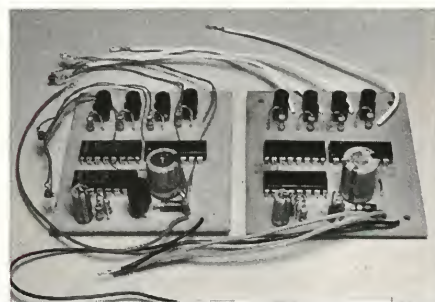
The Harrier division of Chota Sahib, 124 Springfield Road, Brighton, Sussex BN1 6DE, England, produces 1/72 scale white metal aircraft accessories. Items available include Shrike missiles and mountings for the "Black Buck" Vulcan, £3.00 (approximately

\$4.20); Martin Baker MK6MSB for the Buccaneer SMk2B, £1.00 per pair (approximately \$1.40); and a conversion kit for the Red Arrows Hawk, £2.00 (approximately \$2.80). Each comes with painting and assembly instructions. Prices do not include postage.



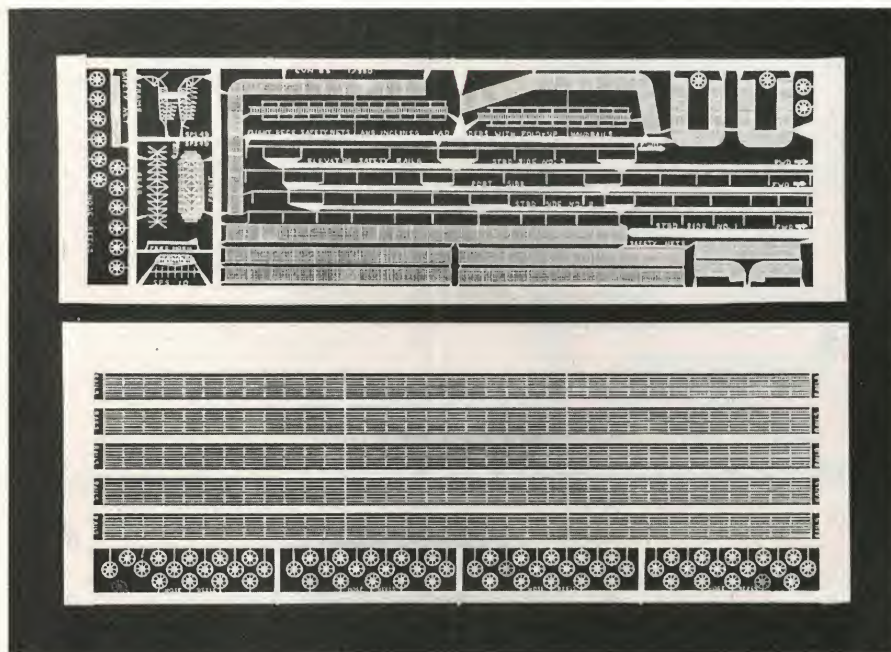
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A polyethylene suede-like grass mat — Vymello — is distributed by David Sloan Creations Inc., Hook Creek Industrial Park, Building 10, Valley Stream, NY 11581. This washable, nonskid material comes in four different green colors as well as earth tones and can be painted. Prices range from \$11.95 to \$14.95 per roll; it is available only in stores.



Electronic lighting circuits

Two products to simulate flickering lights or fires are offered by LCC Manufacturing, P. O. Box 11876, Baltimore, MD 21207. The Bonfire (left) has four small, prewired lights and is suitable for simulating small fires in fireplaces. Three sizes are available: small (1/64 scale and smaller, shown), medium (1/32-1/64 scale), and large (1/32 scale and larger). Each sells for \$23.50. LCC also offers a Firefly board (right), designed to run a series of lights such as torches, streetlights, or candles. The Firefly board can be used for any scale and sells for \$19.95. Add \$2.00 per order for shipping.



Photoetched brass fittings

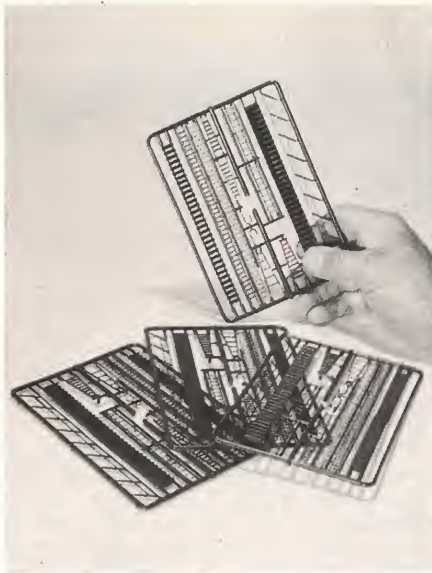
Included in the line of photoetched brass ship fittings from Loren Perry's Gold Medal Models is this 1/350 scale set to be used with the Tamiya U. S. S. *Enterprise*. It can be ordered postpaid for \$25.00 from Loren Perry

at 12323 Chapman Avenue, Number 81, Garden Grove, CA 92640. Fittings in this set include three-bar railings, flight deck safety nets, flight deck elevator safety rails, two radars, and refueling hose reels. Also provided are ladders with fold-up handrails.



Sprue cutter

This cam-action sprue cutter has hardened and tempered steel jaws and spring return. It was designed specifically for scale modelers, with the blade shaped to cut close to the part with no additional trimming needed. It can be ordered for \$16.95 from Micro-Mark, 24 East Main Street, P. O. Box 5112, Clinton, NJ 08809.



HO scale steps and ladders

Central Valley, 13000 Saticoy Street, North Hollywood, CA 91605, has released a set of black styrene steps and ladders in HO (1/87) scale. Each package contains four parts trees and retails for \$3.95. Included in product No. 1602 are an open riser staircase, closed riser staircase, wood ladder stock, steel ladder stock, 10' step ladder, steel ladder with loop tops, wood ladder — round rung, wood ladder — slat rung, freight car ladder, and wood stair railing.



Paints and brushes

Ral Partha Enterprises, 5938 Carthage Court, Cincinnati, OH 45212, has introduced Partha Paints and Dragonscale Metallic Cremes for figure painters. Twenty-three colors of the water-base Partha Paints are available in shatterproof, 3/4-ounce bottles for 99 cents each. Six metallic tints in cream form — Dragonscale Metallic Cremes — are packaged in a plastic case that sells for \$8.00 (product No. 77-727). A paintbrush kit, No. 77-728, includes sizes 2, 0, and 5/0 for \$7.00. Also available are 5 3/4-ounce spray cans of primer (No. 77-725) and clear matte sealer (No. 77-726), each \$3.50. Add \$2.00 for shipping on orders less than \$30.00.

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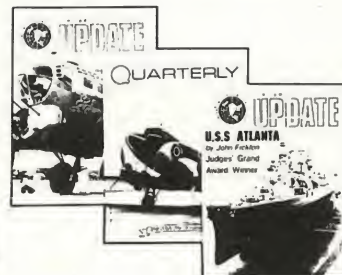
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1/72 scale sperm whale

This 1/72 scale bull sperm whale is the first release from Marine Art by Murphey, 1124 South Lake Street, Suite D, Fort Worth, TX 76104. According to Griffin T. Murphey, this is a limited edition of 100 unsigned blank castings in polyester resin; 200 additional castings are completed on walnut bases, hand finished, and airbrushed. Each unsigned blank casting sells for \$42.50, while the completed whale on a walnut base is \$150.00. In addition, 10 numbered bronze castings will be available in February for \$375.00 each, with a \$100.00 deposit required. Murphey is preparing a 1/72 Orca, or killer whale, for release in 1986.



Dry-transfer decals

Recently introduced dry-transfer decals from Woodland Scenics, P. O. Box 98, Linn Creek, MO 65052, include No. DT559, Standard oil and business signs; DT560, crate labels and warning signs; DT561, 1960s signs and posters; DT562, 1950s signs and posters; and DT563, 1940s signs and posters. These are useful for any scale and sell for \$4.98 each.



Lockheed P-38 conversion kit

New from Koster Aero Enterprises, 233 East Ellis Avenue, Libertyville, IL 60048, is this 1/48 scale Lockheed P-38 vacuum-formed conversion kit. This kit allows you to convert Monogram's P-38L into a P-38E, F, G, F-5A, or F-5E. Included are "pathfinder" and "droop snoot" noses, early cockpit details, rear cockpit details for the P-38M, main gear well details, and decals for seven new aircraft. This kit is priced at \$6.95 postpaid.

Mini-Vac

The Mini-Vac is designed to remove minute particles of dust and debris from hard-to-reach areas. It has vacuum or blower capability, comes with two interchangeable directional wands, two bristle brushes, and a cloth vacuum bag, and can be either DC or AC powered (an AC adapter is optional). Manufactured by Mini-Vac Inc., 217 South Orange Street, Suite No. 4, Glendale, CA 91204, the Mini-Vac is priced at \$29.95.



Trees

Plastruc, Inc., 1020 South Wallace Place, City of Industry, CA 91748, offers a line of "ready-made" trees. Included are (from left) item No. Pop-45, poplar/conifer, 2" high and 5/8" wide, 5 per package, \$6.00; Fir-90, fir/pine, 4" high and 2 1/4" wide, 4 per package, \$10.00; and Tree-30, round head/elm, 1 3/8" high and 1 3/8" wide, 4 per package, \$7.00. There is a \$10.00 minimum when ordering from Plastruc; add \$2.00 for postage to orders less than \$20.00.

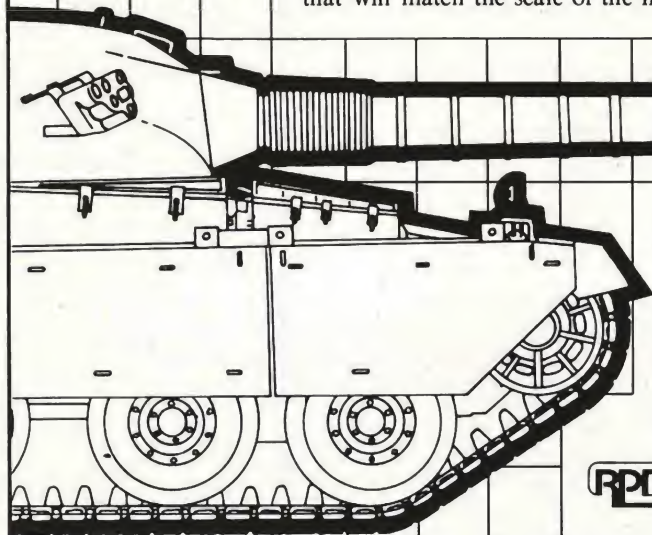
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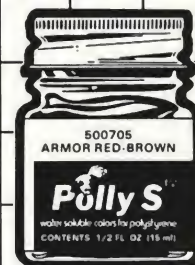
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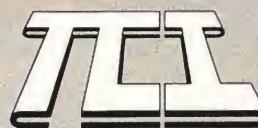


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FROM THE EDITOR

A magazine about modeling techniques

SEVERAL RECENT READER COMMENTS have prodded me to explain once again where we place the editorial emphasis of FINESCALE MODELER.

This magazine is, first and foremost, about modeling techniques, but sometimes that isn't as obvious as I'd like it to be. We ask FSM authors — who are modelers just like you — to orient their articles toward modeling methods, and to explain those methods in painstaking, step-by-step detail. We edit with the same thing in mind, often eliminating pages of background on the real thing in favor of keeping every scrap of how-to modeling information.

Many readers have told me that they notice this, and that they often learn as much from an article on a subject they have no interest in as they do from something right up their alley. One reader reported finding over a dozen useful hints and tips in a single feature!

So take a look. As you page through this issue, read one of the articles that falls outside your main areas of interest. See if the author has a trick you can put to work in your modeling.

I'm betting you'll find at least two.

Bob Haydel

Editor

FINESCALE
MODELER

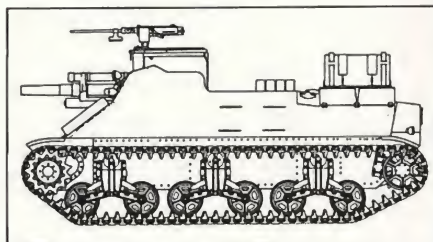
NEXT ISSUE FEATURES



AC-47 Gunship. Larry Schramm.

January/February FSM will be a celebration of the DC-3's 50 years in the air! We'll bring you an ensemble of three features, including a 1/48 scale C-47 to Navy R4D conversion, a showcase on a AC-47 gunship model, and a foldout with color profiles of some of the most significant airline liveries worn by this aircraft. We'll also present a special Reader Gallery section of DC-3s. And that won't be all! Auto builder Paul Budzik will return with a feature on how he uses a lathe in his modeling, and Jack Smith will show you how to set up a classic muscle car — a 1969 Pontiac GTO in 1/24 scale.

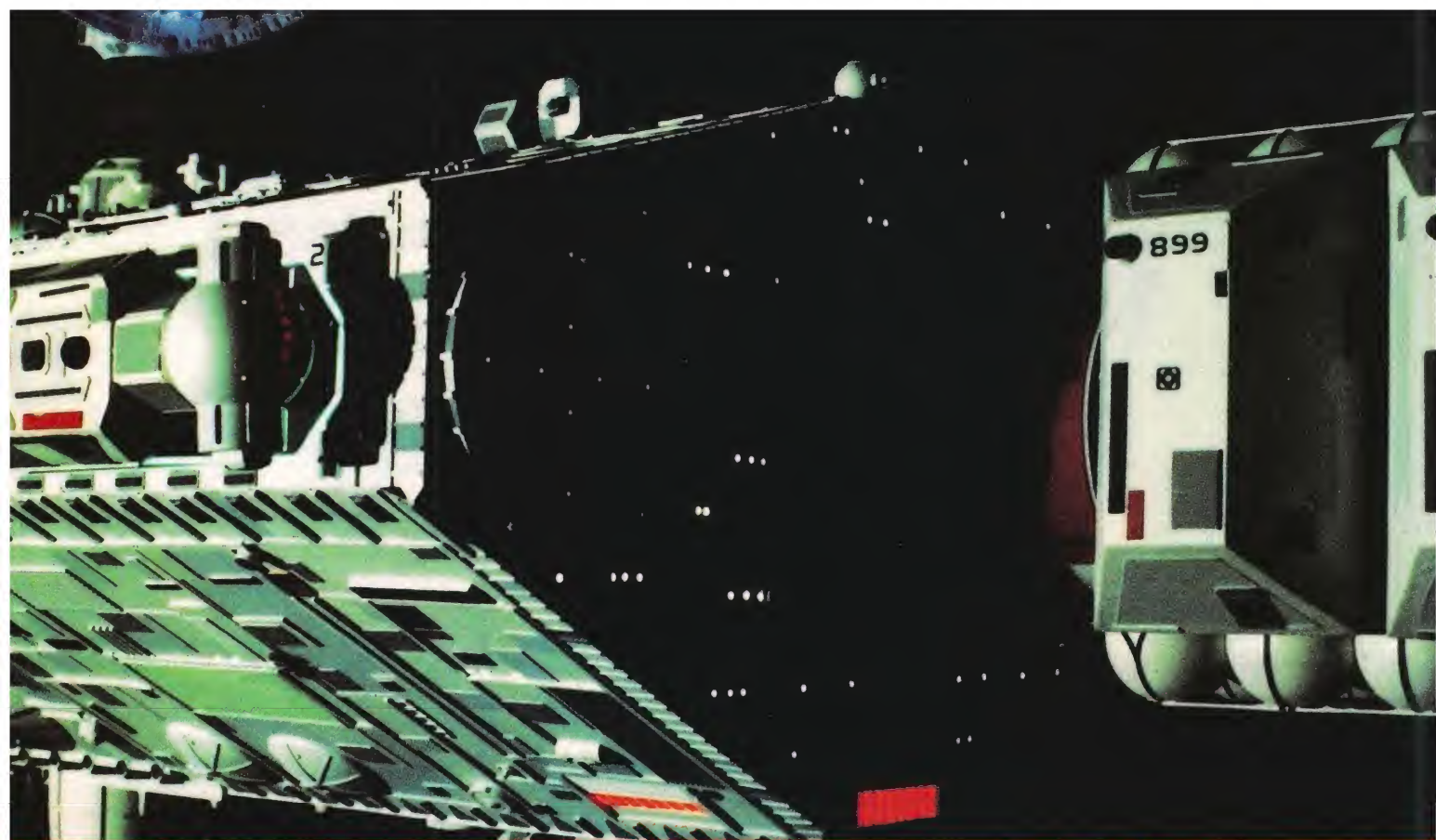
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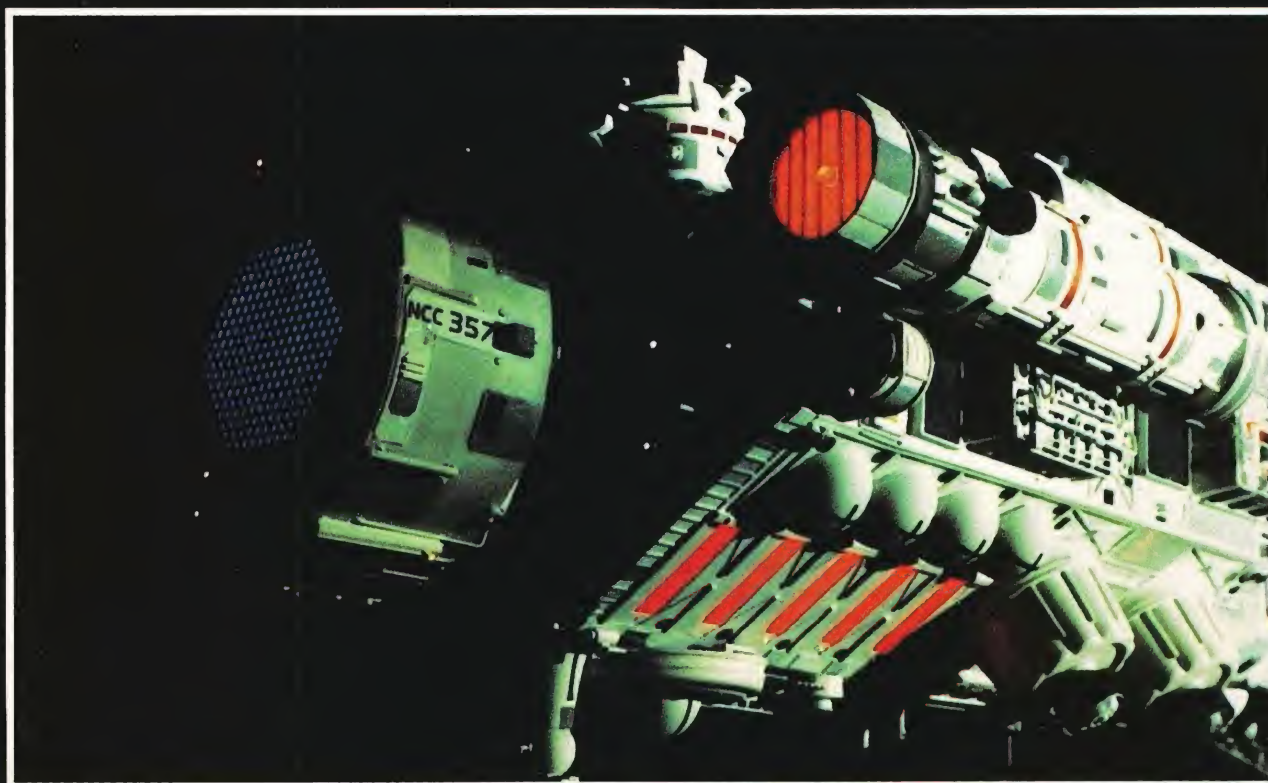
U. S. M7 "Priests." D. P. Dyer.

You're sure to enjoy D. P. Dyer's Research Data on the U. S. 105 mm M7 Howitzer Motor Carriage. In addition to a discussion of the visible changes made to the "Priest" during its production, the article will include 1/35 scale drawings of early and mid-war versions. As a bonus, the author shows how to backdate the Italeri kit to better represent a typical production vehicle.

**ALL IN
JANUARY/
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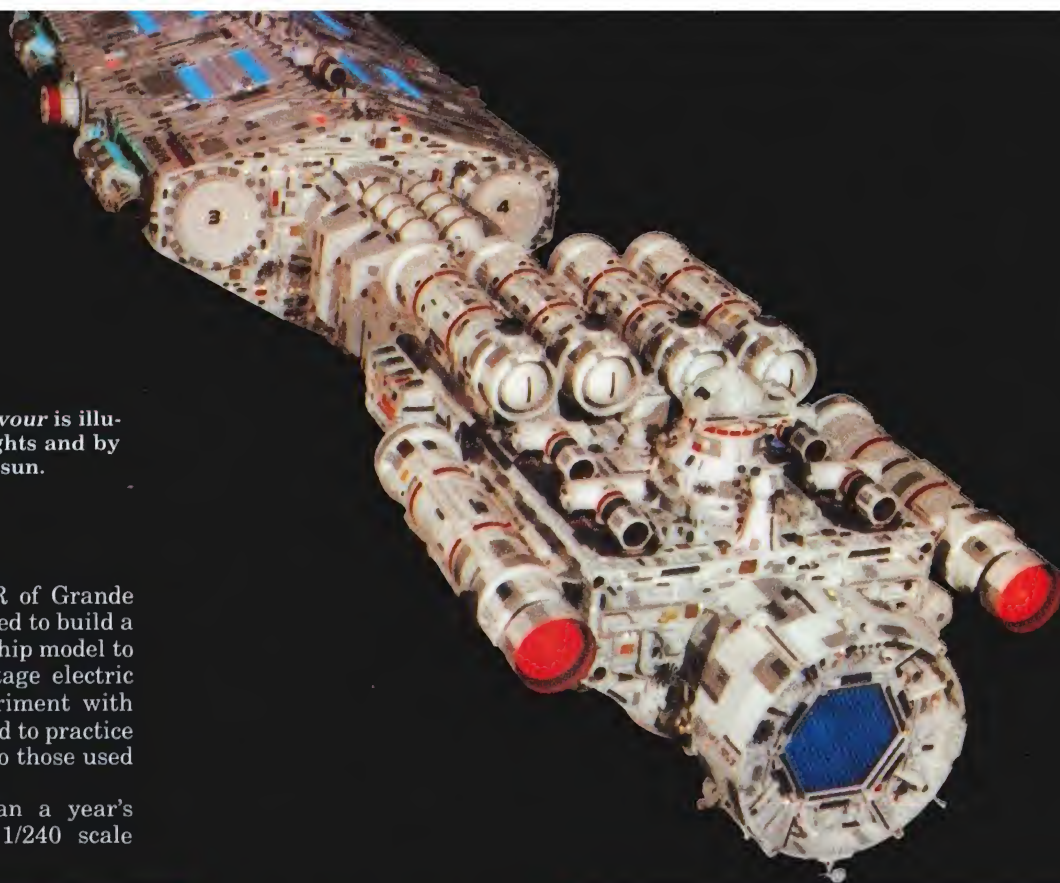
STARSHIP SURVEY



In these photos, the *Endeavour* is illuminated both by its own lights and by the white light of a distant sun.

GEORGE C. LAFLUER of Grande Prairie, Alberta, decided to build a large science fiction spaceship model to learn more about low-voltage electric lighting systems, to experiment with large plastic structures, and to practice designing models similar to those used in the movie industry.

The result of more than a year's spare time work is his 1/240 scale



FSM SHOWCASE

VESSEL U.S.S. ENDEAVOUR

George Lafluer's scratchbuilt model is more than eight feet long!

model of the starship *Endeavour*, whose mission George says is to "explore star systems, collect samples, place navigation aids, survey emergency shelter locations, install communication relay stations, and study life forms, while avoiding detection, if possible, until follow-up ships arrive with diplomatic teams."

The "real" *Endeavour* is 1,990 feet long with a 500-foot beam, features fusion-electric drive, and has a crew of 585, including scientific staff. The vessel is named after both Captain James Cook's bark *Endeavour*, in which Cook conducted his first Pacific Ocean scientific explorations of 1768, and after the Apollo 15 command module *Endeavour* that carried astronauts Worden, Irwin, and Scott on their 1971 lunar mission.

"Two fusion-electric reactors supply power for the main drive with two identical reactors in reserve," George says. "Any or all of the reactors can be replaced from a resupply vessel and sent back for overhaul. The two sublight engines are the same as the main reactors

except that they have direct thrust packs installed.

"The starship's main structure is 3" and 4" ABS plumbing pipe with some sections machined in the lathe," George reports. Adapting collars connect the 3" and 4" sections as necessary and sheet plastic bulkheads support the outer surfaces, most of which are 3/16" clear or white acrylic or styrene sheet with scratchbuilt details and parts from plastic kits. The large scanner disk is a wedding cake plate.

Exterior surfaces are painted with Humbrol and Testor flat whites and grays, with smaller areas of brighter colors. All lettering and numerals are dry transfers.

Sixty-four Ping-Pong balls represent external water tanks — George states that water is the safest way to store the large amounts of oxygen and hydrogen from which the crew synthesizes more complex substances. Similarly, all other external details have a logical purpose.

The starship features many sensors, navigation and docking lights, port-

holes, windows for recreational viewing and hydroponic gardening, and engine thrusters. George illuminated these with 12-volt incandescent and fluorescent lamps placed behind colored lenses or connected to fiber optics. Several of the incandescent bulbs are controlled by a timer and flash up to 80 times per minute, simulating strobes.

For safety, accessibility, and portability, all transformers, fluorescent ballasts, timers, and switches are mounted externally on a large board and are connected to the starship via a 15-foot umbilical.

George was careful to leave adequate clearance inside the model for all light bulbs. He reports that the model has been "operated for two consecutive 10-hour days without overheating or any other problems, even though I'm drawing 10 amps on the 12-VDC system."

As the photos prove, the *Endeavour* is most spectacular when displayed in a darkened room so that the brilliantly lit starship appears to be suspended in space.

FSM



MOUNTAIN MEN, AMERICAN FUR TRADE 1810-1840

BY R. J. STAFFORD
ARTWORK BY THE AUTHOR

STYLISH EUROPEAN HATS made from beaver pelts sparked one of the most colorful episodes in America's westward expansion. When Thomas Jefferson sent the 1804-1806 Lewis and Clark Expedition into the Louisiana Territory, one of its missions was to find new beaver country. On the heels of Lewis and Clark came the mountain men, trappers and traders in beaver pelts. Although the era of the mountain men lasted only from 1810 to 1840, those 30 years spawned more mythical exploits than there were men to have lived them.

The illustration depicts three men, perhaps brought together at one of the great annual summer rendezvous held from 1825 to 1840. Although some garments are similar to Indian wear, true Indian clothing was seldom worn. The trappers and traders outfitted in St. Louis and clothing was replaced at the fur trading posts and rendezvous — buckskin jackets and trousers were copied from cloth originals. Beads were sewn in but rarely in the Indian geometric style; most ornamentation was in floral patterns.

The figure on the left wears a skunk hat with the tail in back and a leather visor. His capote, or blanket coat, originated in French Canada; common colors were white with colored stripes, red with black stripes, and a few were dark gray. Although a long version is shown, mid-thigh capotes were popular, and most had hoods. The green sash holds the coat closed. This man wears cloth trousers and carries a Pennsylvania trade musket.

One myth has it that mountain men favored J. & S. Hawken guns. The trade gun, a smooth-bore musket of from .50 to .60 caliber that could fire either fine shot or a heavy ball, was far more common in the early years of the Western fur trade. Later came the Plains rifle, including those from Hawken, which offered significant advantages in range and accuracy over the musket.

Double-barreled shotguns like the one held by the man in the middle were popular for guard duty. This figure is dressed in skins, and the red trade breechclout tells us he wears Indian-style crotchless trousers. The beaded necklace, choker, and moccasins are probably of Indian origin. The powder horn on his right shows he has a musket or rifle as well as the shotgun. He wears a soft, broad-brimmed hat.

The smiling figure on the right wears the popular wool stocking hat, and his homemade shirt has large sleeves in the popular style of the period. The pouch around his neck includes a knife and scabbard; it probably holds his tobacco, and may have two or three compartments. The geometric beading indicates it was probably obtained in trade from an Indian. Skin trousers and moccasins complete his garments, and on his right arm he carries a leather riding quirt made on some long winter night.

FSM

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- Hanson, James Austin, *Mountain Man Sketch Book, Vol. I and II*, The Fur Press, 1982.
- Mails, Thomas E., *The Mystic Warriors of the Plains*, Doubleday & Co., Garden City, New York, 1972.
- Russell, Carl P., *Firearms, Traps & Tools of the Mountain Men*, Alfred A. Knopf, New York, 1967.

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Burl's 1/48 scale Testor/Hawk SPAD XIII displays markings produced with his home-made decals. The sheet contains the three decals used to make the crowing cock on the fuselage sides.



Fig. 1. The markings were made on blank decal sheets using an office copier. Note the sharp black lettering and designs.

Making your own decals

Blank decal paper and a good copier are all you need

BY BURL BURLINGAME

FRANCE, 1918. The skies above the trenches were filled with gaily painted biplanes, each as unique as the pilot and regulations would allow. Some of the most colorful schemes in aviation history were found on the wood-and-wire aircraft of World War One. Problem is, decals for WWI models are not exactly thick on the ground. The answer is to make your own — it's not as hard as you might think.

The first step, naturally, is to build the models, and that calls for plenty of research. Nothing beats photographs and accurate drawings. Some excellent publications are *World War One Aero*, *The AAHS Journal*, the magazines from the Cross and Cockade society, and *Wings* and *Airpower* magazines. The models featured in this article are all in 1/48 scale, and anyone who builds biplanes knows these are no longer easy to find. The molds for these kits are more than 20 years old. The Fokker D.VIIs are Monogram's excellent reworking of the old Aurora kit. The SPAD XIII and Nieuport 17 are Testor/Hawk kits with good outlines and delicate molding.

The blue-fuselaged Fokker D.VII was flown by Lt. Wolff of Jasta 13 and the SPAD XIII received the crowing cock insignia of Escadrille SPA 48. The Nieuport 17c was decorated as a graffiti-

marked bird of Italy's Squadriglia 91.

Drawings come first. The method I use involves blank decal paper run through an office copy machine. Obviously, it works best for black markings, but it can also be applied to other colors, as we will see.

To make your own decals, first prepare accurate scale drawings of the markings. Using pieces of frosty transparent tape, cover the areas where the markings are to go on the model. Several small pieces may be needed for areas with compound curves. Draw the design in pencil right on the tape on the model. Then carefully lift the tape so it all comes off in one piece and transfer it to a sheet of paper. If you've gone over curves, carefully slice across the high areas so the tape will lie flat.

An alternate method is to cover the model completely with tape and trace over the panel and seam lines. Pull off the tape, press it down on paper and you've got the 3-dimensional surface of the model spread over a 2-dimensional flat plane. Then, draw on the markings.

Next, make rough sketches of the designs on tracing paper and have them enlarged 200 to 300 percent at a local printer. Don't worry about how rough they look — you'll be using them as a guide for the final drawings. It's easier to prepare the final artwork from the enlarged images.

Using a straightedge, triangle, com-

pass, French curves, circle and ellipse templates, India ink, and pens, make the finished drawings on tracing paper. Most lettering can be done with rub-on dry-transfer letters such as Letraset or Chart-Pak, available at artist's supply stores. If you need to make a mirror image of the design for the other side of the aircraft, have the printer flop the tracing paper and shoot it again.

When all the oversize drawings are done, arrange and paste them on a large piece of paper. Make sure that when reduced to model size the images will fit on the 8½" x 11" sheet of decal paper. Now, take it back to the printer and have it reduced to the model size. If you had the drawings blown up 300 percent, you'll need to have them reduced to 33.3 percent to get them back to model size; 200 percent blowups should be reduced to 50 percent.

ATP sells 8½" x 11" blank decal sheets that cost about \$1.30 each, but if you intend to make a lot of decals, a bulk order direct from ATP can cut that cost considerably. Inquire first with an SASE.

Now, unless you're a whiz with the office photocopy machine, take your decal master and blank decal sheets to the local instant-print shop and have the master drawing copied onto the decal sheets. It's as simple as that. It might take a couple of botched sheets to get it right, but the result is a crisp, detailed transfer of the master drawing onto the decal film, Fig. 1.

Other colors. With a standard copier, black is the only color available, and I've found that the decal sheets don't fare well in color copy machines. For the graffiti on the Italian Nieuport, Fig. 2, black works fine. To use the de-



Fig. 2. The graffiti on this 1/48 scale Testor/Hawk Nieuport 17 was reproduced on the homemade decal sheet.

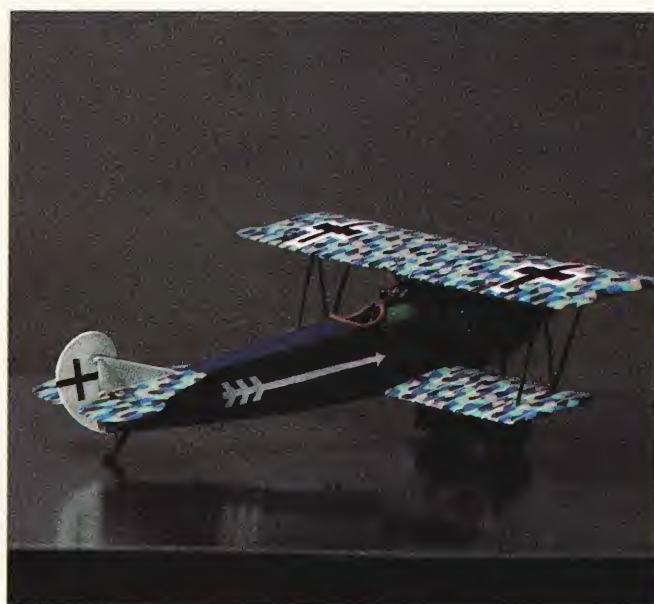


Fig. 3. This 1/48 scale Monogram/Aurora Fokker D.VII's white arrow was made using decals as masks.

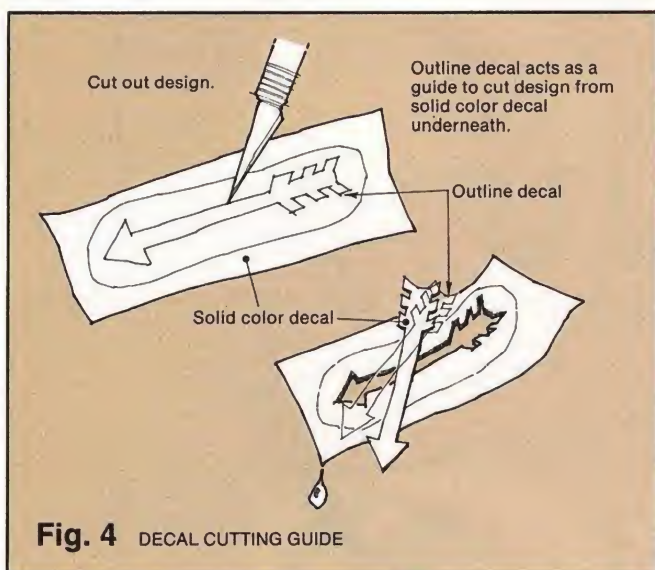


Fig. 4 DECAL CUTTING GUIDE

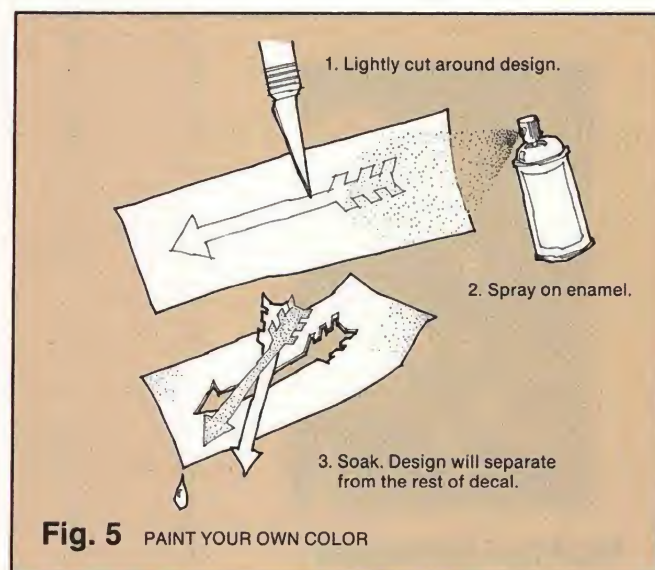


Fig. 5 PAINT YOUR OWN COLOR

cals, trim closely around the insignia and apply it as you would any decal. ATP's blank decal sheets snuggle down tight — they do wrinkle badly with Micro-Sol decal solvent, but straighten out as they dry.

I use three methods for making simple one-color designs. Let's take the white arrow running along the fuselage of Wolff's Fokker as an example, Fig. 3. The first method is to use a sharp knife blade to cut around the black marking outline on the decal sheet. Next, wet the decal and slide the design onto a sheet of Microscale solid white decal. Don't get the white decal so wet that it begins to separate from its paper. After the black design outline decal has dried on the white decal, trace around the outline with a sharp blade, cutting through both decals. As

you wet this decal, the outline decal will slide off the white decal below, Fig. 4.

The second method is to cut lightly around the outline while it is still on the clear sheet, then spray or airbrush the appropriate color enamel over the design. As it soaks, the design will separate from the rest of the decal, Fig. 5.

The third method is to spray the model with the marking color (in this case white). Next, cut around the design with a sharp knife and apply it to the model. Don't use a solvent because you'll want to pull the decal off later. Now paint the rest of the model. The decal acts as a mask, preserving the marking color underneath. After the paint is dry, soak the decal with Micro-Sol to soften it then remove it with tape, Fig. 6.

For cutting circles and arcs in decals,

I use the Olfa Circle Cutter, available in art supply stores. I sharpen the ends of various diameters of aluminum tubing to cut small disks from solid color decals. I place the end against the decal and twist lightly to cut through.

Figure 7 shows how I made the crowing cock insignia on the SPAD. The first step was to use an overall design outline decal as a mask over the white painted fuselage. After painting the fuselage with the camouflage colors, I removed the decal mask, revealing the white marking background. Then I applied a coat of Future acrylic floor polish to provide a gloss surface for the next decal, which had fine black outlines for the color areas. The colors were hand painted with enamels, just like a paint-by-number picture — simply stay within the lines!

When the enamels were dry, I applied another coat of Future and the final decal that contained the black portions of the design. This decal hid the edges of the painted areas and gave the design a neater appearance. The final steps were a coat of Future over the entire model followed by a coat of flat varnish.

Although the techniques I've described use unusual tools, they are not complicated and the work becomes easier as you gain experience. As you can see, the possibilities of homemade decal markings are nearly endless — and the results are superb. **FSM**

SOURCES

- ATP, 3014 Abelia Court, San Jose, CA 95121.
- Chart-Pak, Leeds, MA 01053.
- Letraset USA Inc., 40 Eisenhower Drive, Paramus, NJ 07652.
- Olfa Products Corp., P. O. Box 747, Plattsburgh, NY 12901.



Meet Burl Burlingame

Burl is a feature writer, film critic, and layout editor for the *Honolulu Star-Bulletin*. (He admits to keeping a kit or two in his desk for after-deadline unwinding.) Burl majored in photojournalism and anthropology at the University of Missouri. The son of a U. S. Air Force P-51 pilot, Burl grew up in Alaska, New Jersey, Taiwan, and Hawaii. He picked up his interest in modeling from his father.

Burl's major interests are pre-World War Two aircraft and Napoleonic figures, though he builds an occasional kerosene-burner for variety. Burl also designs photoetched brass detail parts for IPMS/U. S. A. When he isn't modeling, he edits the IPMS/Hawaii chapter publication. Burl, 31, resides in Honolulu and says he is married to "a patient woman." The photo above was taken in a CH-46 helicopter on a four-hour flight out to the U. S. S. *Enterprise*.

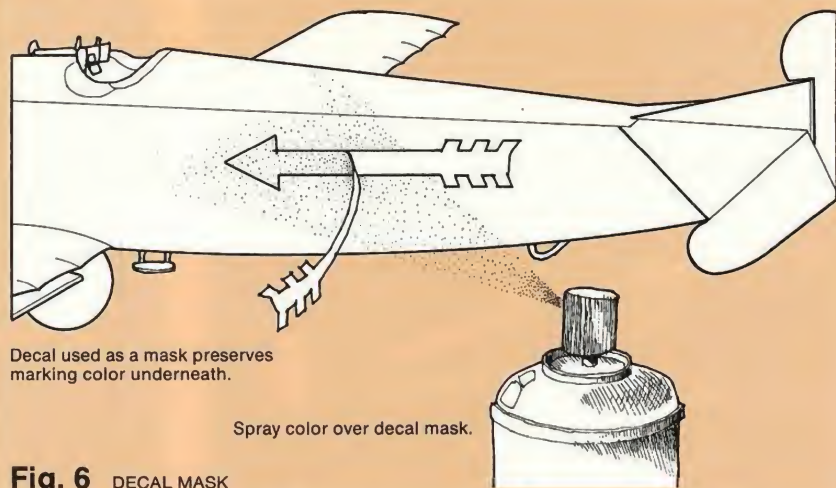


Fig. 6 DECAL MASK



Fig. 7 MAKING MULTICOLORED DECALS



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1/72 Scale

Grumman X-29	\$ 5.25
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UH-60A Blackhawk	6.37
F-16A Plus	5.25
B-47E Stratofort	17.50
SH-60B Seahawk	6.37
F-14 Tomcat	6.37
YF-16 CCV	4.12
S-3A Viking	6.37
IAI Kfir	4.50
F11F-1 Tiger	4.12
P-47D (Razor)	3.19
P-40	3.19
F6F 3/5 Hellcat	2.62
F4U-1D Corsair	4.12
SR-71	7.50
A-10A	6.37
Mig-23S	4.12
EA-6B Prowler	6.37
F9F-2 Panther	4.50
F9F-8 Cougar	4.12
B-17G	8.25
P-40 Kittyhawk	3.19
P-40N Warhawk	2.25
Mig-25 Foxbat	4.87
Harrier GR.3	4.50
F-20 Tiger Shark	4.50
K48 (Lily)	5.44
Mitsubishi F-1	5.44
Mitsubishi T-2	5.44
F-8C Crusader	5.44
Blue Impulse T-2	5.44
F-15J Eagle	5.44
Jaguar GR.1	5.44
Weapons Set 1	3.57
Weapons Set 2	3.57
Weapons Set 3	3.57
Weapons Set 4	3.57
Weapons Loading Set 5	3.57
Aerospace Ground Equipment Set 6	4.50
Pilot and crew set #7	4.50
T-33A	2.44
SOC-3 Seagull	2.44
RF-7K1 Alf Type 94 Floatplane	4.12
Jako E13A-1 Floatplane	4.50
TA-4J Skyhawk	4.50
RA-5C Vigilante	5.44
F-4E Phantom	5.44
F-4E Phantom	4.87
Betty w/Onka	10.95
GBM1 (Rita)	10.95
A-7A Corsair	4.12
A-6A Intruder	5.44
Me Bf 109E	2.25
Me Bf 109G	2.44
Raiden Jack	3.19
UH-1D Iroquois	3.19
Jaguar GR.72	5.44
F-15C w/stores	4.87
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F-106A	5.44
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P-51D Mustang	2.44
K43 Oscar	3.19
K48 Frank	3.19
K44 Tojo	2.44
K61 Hien Tony	2.44
FW 190 A-57	2.44
FW 190 D-9	2.44
He 51A-1	2.44
Mirage F.1C	4.50
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OV-10A Mohawk	4.12
OV-10B Mohawk	4.12
Shidenai George	3.19
Raiden Jack	3.19
K15-1 Babs	3.19
B5N2 Kate	3.19
Type 99 Sonia	3.19
Type 97 Nate	3.19
P-3C Orion	1.95
F-15E	8.25
Mitsubishi T-2 CCV	6.75

1/48 Scale

F-15E Strike Eagle	19.95
F-4F Phantom	14.50
A6M5a Zero	4.87
Shinden J7W1	4.87
K27 (Nate)	6.37
George	7.50
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F-4J Phantom	14.50
F-4B/N Phantom	14.50
F-4C/D Phantom	14.50
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F-4G Phantom	14.50
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F-5E Tiger 11	11.99
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P-51D Mustang	8.25
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Spitfire MkVI	11.99
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Me163 Komet	6.37
Mess. Me262A	15.95
F6F-3/5 Hellcat	19.95

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B-52D Stratofortress

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F-101B Voodoo (2 seat)	5.79
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F-15 Eagle	5.79
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F-111 Aardvark	5.79
F-4J Phantom	5.79
F-105D Wild Weasel	5.79
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F-105F	5.79
F-106 Dart	5.79
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F-17G	10.87
B-64 Thunderstreak	3.99
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Blue Thunder Helicopter

1/144 Scale Missiles

U.S./U.S.S.R. Missiles

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K61-1 Tony	3.98
KIKI-J George	3.98
Willow	3.98
Mit. J2M3A Jack	3.98
K48-1 Frank	3.98
P-51D Mustang	3.98
F-105D Wild Weasel	3.98
K100-1B Goshiki	3.98
P-40E Warhawk	3.98
Spitfire MK.8	3.98
Mess. Bf 109G-6	3.98
FW 190A-8	3.98
F-4E Corsair	3.98
P-47D	3.98
F6F-3 Hellcat	3.98

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Type 99 Sonia	5.98
K45 Nick	6.98
Oscar Mk1	5.98
K48 Frank	5.98
Zero 21 Tojo	6.75
Rufe (Zero/Floats)	6.75
JN33 Raiden "Jack"	5.98
F-16	7.50
A-10	15.75
F-15A Eagle	15.75
A6M3 Zero (Hank)	7.50
Sea Harrier FRS Mk1	7.50
A6M5C Zero Type 52c	8.25

1/32 Scale

K48A Tomcat

KOPRO - K.P.

1/72 Scale

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Spitfire Mk LF-IXE	4.79
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1/48 Scale

B-25B Mitchell	6.37
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CH-53 Sikorsky	9.75
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N.A. FJ-4B Fury Jet	11.25
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Domier Do18	6.75

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1/72 Scale

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Avro Vulcan	10.29

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1/72 Scale

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------------------------	------

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#5 American WW2 Seatbelt Buckles (with Mounting Hardware)	1/48 2.40
#6 American WW2 Seatbelt Buckles (with Mounting Hardware)	1/72 2.00
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#20 Japanese Seat Belts w/buckles, WW2	1/72 2.00
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#26 Phantom F4 Canopy Detail Set	1/72 2.40
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#01 F-16A Interior Placard Set	1/32 4.40
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#04 F-15A Interior Placard Set	1/72 2.10
#05 F-15A Interior Placard Set	1/48 3.60
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F-4E Phantom	6.75
F-4E Phantom	6.75
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B6N2 Jill	4.95
B6N2 Jill w/Bombs	5.59
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F-16A Plus "USAF"	5.59
F-16A "Thunderbird"	5.59
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D4Y3 Judy	3.95

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RF-4 Phantom	4.50
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F-5E Tiger II	4.50
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F-5F Tiger II	4.50

Replacing defective kit parts and decals

BY PAUL BOYER

NOT A MONTH goes by without a letter from an FSM reader on the subject of replacements for defective and missing kit parts or decals. Some modelers also want to know if it's possible to obtain spare (duplicate) parts.

To answer these questions, FSM surveyed 22 kit manufacturers and importers, asking how each company handles such requests. Twelve companies responded, and details of their replacement policies are found in the ta-

ble below. In most cases, your best bet is to return the kit, unbuilt and unpainted, to the dealer you bought it from; a reliable dealer will replace the defective kit. Open the new kit immediately, in the presence of the dealer if possible, to make sure the defect isn't repeated.

Most injection-molded kits are first sent to regional or local distributors, then to your neighborhood hobby shop. Sometimes the product replacement policy is set up by the distributor whereby defective kits are returned by

the dealer for credit, and likewise from the distributor to the manufacturer. This isn't always the case, so check with your dealer.

Be realistic. It's important to be understanding and courteous when writing to a manufacturer or importer. Remember, no one deliberately sets out to make defective products, but despite excellent quality control measures, mistakes do slip by. If you become the unlucky purchaser who gets the defective kit, don't go off half-cocked and bad-mouth the manufacturer for providing a shabby product. Chances are you purchased the one-in-a-thousand bad apple that got past the inspectors.

If the manufacturer has made a research error in the kit or decal design (the wrong shaped tail or the wrong colors on the unit markings), don't write in expecting to get corrected replacements — besides, maybe *your* references are in error.

Don't write in complaining about the

Manufacturer and address	Replace defective or missing parts or decals?	Is there a charge?	Provide duplicate parts?	Is there a charge?	How old a kit can you provide parts for?	Response time (weeks)	Department or person to contact
Ceji/Revell 4223 Glencoe Avenue Venice, CA 90291	yes	no (see remarks)	no		2 years	2 to 4	Consumer Service — Defective Parts
Ertl/AMT Hwys. 136 & 20 Dyersville, IA 52040	yes	no	yes	Cost plus \$3.00 postage and handling	3 to 4 years	4 to 6	Lynn Engelken Customer Services
Koster Aero Enterprises 233 E. Ellis Avenue Libertyville, IL 60048	yes	no (post- age for decals)	yes	yes	entire line	1	Bill Koster
Minicraft (Hasegawa) P. O. Box 3577 Torrance, CA 90510	yes	no	yes	\$3.00 to \$5.00	all kits in current catalog	2	Vickie Bender
Monogram Models, Inc. 8601 Waukegan Road Morton Grove, IL 60053	yes	no	no		usually 2 to 3 years, some older	3 to 4	Consumer Service
Polk/Heller 348 Bergen Ave. Jersey City, NJ 07304	yes	see remarks	no		all kits in current catalog		Customer Service
RAREplanes 69 Redstone Hill Redhill, Surrey, England	yes	1 IRC	special order	yes	most of line	1 to 4	
Testor 620 Buckbee Street Rockford, IL 61101	yes	no	no			4 to 6	Linda S. Cero
Twentieth Century Imports 4732 East Pearl Boulder, CO 80303	yes	no	no		2 to 3 years	1 to 3	Attention: Achmed
War Eagle, Inc. P. O. Box 255 New Baltimore, MI 48047	yes	no	yes	Cost plus postage and handling	all kits	1 to 2	Ron or Donna Kowalczyk
Williams Brothers, Inc. 181 Pawnee Street San Marcos, CA 92069	yes	no	no		all kits	1	
Wings 72 & 48, Inc. 3349 Wildridge Drive, NE Grand Rapids, MI 49505	yes	no	yes	Cost plus postage and handling	all kits	1 to 2	Don Bratt

choice of subject, either. A courteous letter to the customer service department of a large company probably will elicit a quicker response than a hot-headed letter to the company's president.

Be specific. Don't make the manufacturer guess about which kit or which part is defective. For example, if you write to Minicraft simply saying the canopy on your F-16 kit was crushed or missing, they'll have a hard time sending you the correct part. Why? Because Minicraft/Hasegawa has 1/32, 1/48, 1/72 scale (two different kits), Coin series (snap-fit), and egg-shaped F-16 kits.

When writing for a replacement part, tell the company which kit, scale, product number, part number (usually found on the sprues and instructions), and most important, your name and address. Allow a reasonable amount of time for your requests to be filled — you may be in a hurry to build the

model but a manufacturer or distributor has plenty to do besides answering mail. You'll usually receive a response within two to six weeks.

Duplicate parts. Kit makers receive numerous requests for wheels, propellers, bombs, tracks, guns, and tools, and a few manufacturers make parts available separately. Those that do don't give them away. Be honest; if you need extra parts, don't tell the manufacturer yours were defective or missing — that's unreasonable, and what's more, it's pretty close to stealing.

SASE and IRC. Manufacturers and distributors are more likely to respond to your requests for information if you include a self-addressed, stamped envelope (SASE). This makes it easier for them to respond, and reduces mailing costs. In some cases, the manufacturer will require you to provide postage for replacement parts or decals. When dealing with manufacturers overseas, include one or more In-

ternational Reply Coupons (IRCs), available at the post office. These coupons are exchanged for postage from their country to ours. This way, overseas firms don't have to exchange currency and we don't have to find foreign stamps.

Valuable advice. We asked each manufacturer and distributor to provide advice for modelers with defective or missing part problems. Here's what they had to say.

Ceji/Revell: "Don't return kits to us; specify part number and name, exact kit number from box, and the assembly step in which the part is shown. . . . We can't respond to telephoned requests. . . . We will not respond to repeated requests from the same person — there is a tendency to use us as a spare parts supplier."

Monogram: "We can be more responsive to written requests than to phone calls or walk-ins. . . . Please write to our Consumer Services Department."

Remarks

Don't return kit; specify kit number, part number, assembly step. Send proof of purchase (receipt, box end).

Price list for parts available.

Return defective parts to company for exchange.

Like to have parts if request seems excessive; include kit number and part number.

Sometimes requests defective parts be sent in.

Return entire kit for exchange. Return decal for exchange.

Replacement canopies: 2 IRCs. Other parts special order.

Return kit to dealer first.

Specify kit number and part number.

Send kit to company for replacement.

Send kit to company for replacement. Do not return to dealer.

Send SASE or IRC for inquiries.



"You're right, George. The different colors of plastic should have tipped me off."

ARROW HOBBIES

2273 Hazellynn Place
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The SOURCE For...

Casting resins and
mold making materials

"Make one or
one thousand
with Castolite."

Catalogue \$2.00

CASTOLITE

Dept. 85 P/FS
P.O. Box 391
Woodstock, IL 60098

Polk/Heller: "There is no charge for replacing defective parts or decals, but we ask that the entire kit or decal sheet be sent to us for replacement."

RAREplanes (England): "Only about 2 in 100 American modelers think of sending an IRC to gain a reply whether it be for information, stock lists, or replacement parts. Most seem to think we are the 51st state anchored off New York — not 3,000 to 6,000 miles away. In a one-man show like mine, costs of specially packing and airmailing small parts can take time and profit away from selling kits. . . . We check every kit leaving the place three times over for inclusion of canopy (and now decals), but 90 percent of complaints blame us for leaving them out. Only a few say they sanded too much, lost it, or trod on the canopy."

Testor: "Return the kit to your local dealer first. Make sure the kit is complete before you paint or remove parts from the sprues."

Williams Brothers: "We have found it most efficient to have complaints directed to the factory, rather than to dealers, and slips enclosed in our kits reflect this. . . . We feel that the majority of complaint letters received from customers have been honest (some of the situations described have been quite humorous) and most admit freely when problems have been of their own doing. . . . We maintain a limited quantity of moldings in stock for replacement purposes. For this reason, we prefer not to become involved in supplying individual parts for scratchbuilders — propellers from one kit, cowlings from another, and wheels from a third. The time and effort involved in trying to fill such requests cannot be justified economically. However, because we are sympathetic with scratchbuilders' motives, we have made some of our 1/32 scale engines available separately."

Wings 72 and 48: "If we have to take time to answer a letter or send out a part, the time required more than cancels out whatever profit we might have made. That's why we try to do it right the first time. . . . You would be astounded at the sheer numbers of letters we get for which we are expected to reply using our time, money, stationery, and postage. If you have a question or a problem that requires an answer, please enclose an SASE or [for overseas customers] an IRC."

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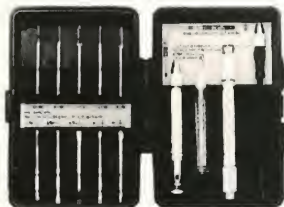
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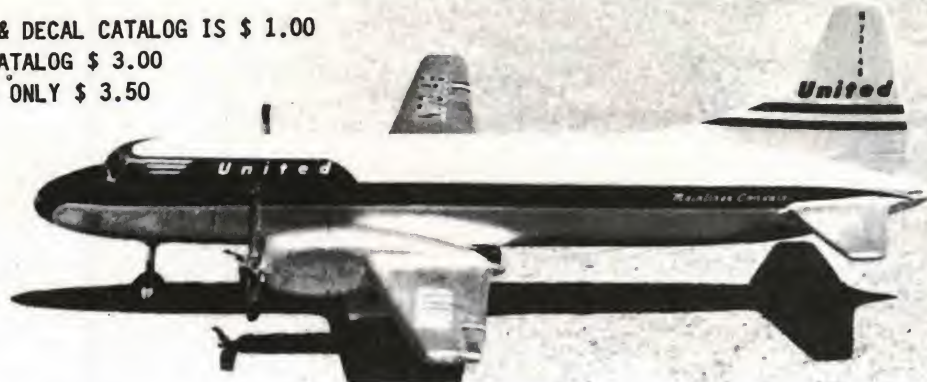


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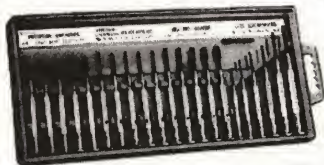
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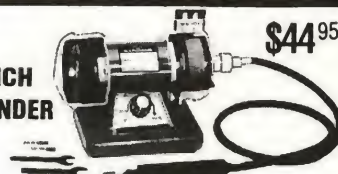
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Kitbashing a Sukhoi Su-22 "Fitter-J" in 1/72 scale

Modeling the other guys

BY DAN DIBACCO

OF THE MANY aircraft produced by the Soviet Union, some of the most interesting are the Sukhoi family of variable-geometry attack aircraft — the Su-17/20/22 series. A direct descendant of the fixed-wing Su-7 (Fitter-A), the Su-17 was born out of the need to fix the shortcomings of the Su-7, the most serious being lack of range (low altitude endurance with afterburner was less than 10 minutes!) and limited payload.

In the mid-1960s, the Sukhoi design bureau looked at fitting the Su-7 with a new variable-sweep wing to improve performance. At the time, variable geometry was a new concept, but Sukhoi's engineers developed an unusual



Don Sperring / A. I. R.

Fig. 1. Su-22 conversion overview. Markings are similar to the Libyan aircraft shot down in the Gulf of Sidra in August 1981.



FINESCALE MODELER: A. L. Schmidt

The variable-geometry (VG) Sukhoi Su-22 holds the dubious distinction of being the loser in the first VG versus VG dogfight. Dan's model combines the VEB-Plasticart Su-7 kit with the nose of a KP Yak-23 and vertical tail of a Hasegawa MiG-21. Note the simple green Libyan insignia.

wing with the pivoting section hinged at mid-span. The wing was tested in 1966 on the Su-7 IG (Izmenyayaya Gayomyetriya = variable geometry) and this prototype was first displayed at Domodedovo in July 1967. The aircraft, dubbed Fitter-B by NATO, was a substantial improvement over the basic Su-7 and the design bureau was given the go-ahead for a production version.

The result was the Su-17 Fitter-C, with a more powerful Lyul'ka engine, new avionics, and a number of aerodynamic refinements. These aircraft first entered service with the Soviet air force V-VS (Voyenno-Vozdushnye Sily) in 1971. Compared to the Su-7, the Su-17 could lift twice the payload from airstrips just over half as long and carry it 30 percent farther.

The Su-20 and Su-22, export versions of the Fitter equipped with less-sophisticated avionics and different power plants, are serving with a dozen air forces including the Warsaw Pact na-



Bill Malerba via Bert Kinzey/Detail & Scale



Bert Kinzey/Detail & Scale

The Gulf of Sidra Incident

By the summer of 1981, aircraft of Libya's air arm had been harmlessly jousting with U. S. Navy fliers over the waters of the Mediterranean Sea for some time, but Libyan leader Colonel Muammar el-Qaddafi's attitude toward the U. S. was becoming more hostile. The issue at hand was Libya's declaration of territorial waters extending well beyond internationally recognized limits.

On the morning of August 19, Commander Henry Kleemann along with backseater Lieutenant Dave Venlet, and Lieutenant Larry Muczynski with his backseater, Lieutenant Jim Anderson, were on patrol in their VF-41 "Black Aces" F-14A Tomcat fighters from the carrier U. S. S. *Nimitz*. They picked up a pair of aircraft on radar, approaching from the shores of Libya. The two Su-22 Fitters were close together, while the F-14s were about a mile apart.

As the aircraft closed head on, one of the Libyan fighters launched an AA-2 Atoll missile, similar to early versions of the AIM-9 Sidewinder. The missile missed, but the shot took the Navy pilots by surprise. Did the missile launch accidentally? Could it be that the pilots were ordered to put some bite into Qaddafi's bark? The angle and range weren't good for the shot — too close for the closing speed and the Atoll doesn't work well in a head-on approach. It's possible that the missile was meant as a shot "across the bow," but the F-14 pilots weren't about to ask the Libyans for a clarification. They immediately declared the two Sukhois as hostile and engaged.

Commander Kleemann had the best position on the fleeing wingman while Lieutenant Muczynski got in position behind the Libyan leader who had fired the first shot. Kleemann was first to retaliate — as the Libyan wingman turned out of the sun, Kleemann released one AIM-9L Sidewinder that connected and crippled the Fitter. As the airplane began to fall out of the sky, the pilot successfully ejected.

Meanwhile, Muczynski went after the leader and fired a Sidewinder, too. The Sukhoi exploded in a huge fireball. Muczynski almost flew into the debris, but at the last second, made a gut-wrenching 6-G pull-up and rolled over to watch the falling wreckage. The F-14 crew saw the pilot eject, but didn't see a chute which may have opened at a lower altitude.

Kleemann and Muczynski were the victors of the first dogfight where all the aircraft involved featured variable-sweep wings. The losers, the Libyans in their Soviet-built Su-22 Fitter-Js, remain nameless.

Paul Boyer

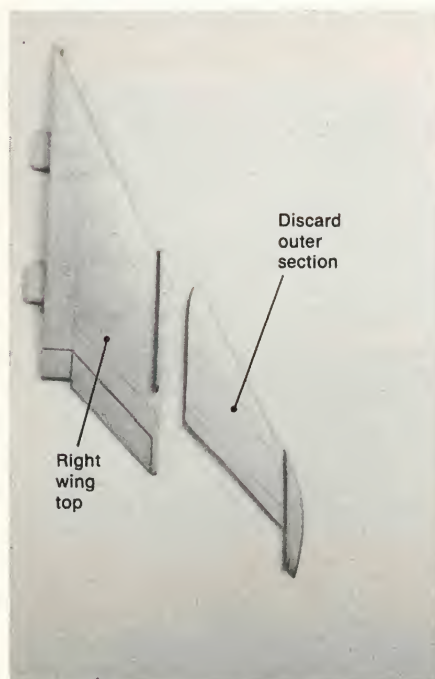
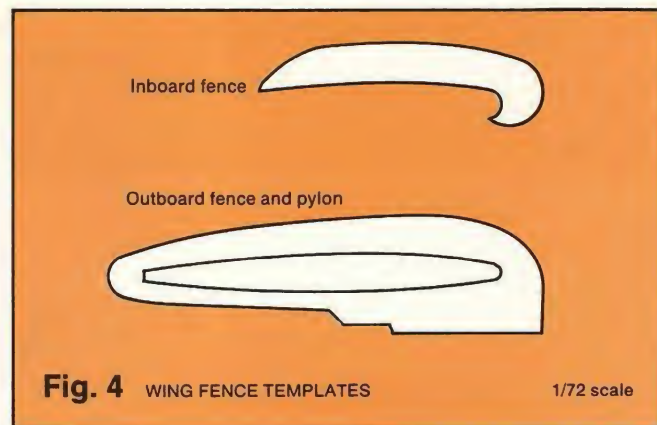
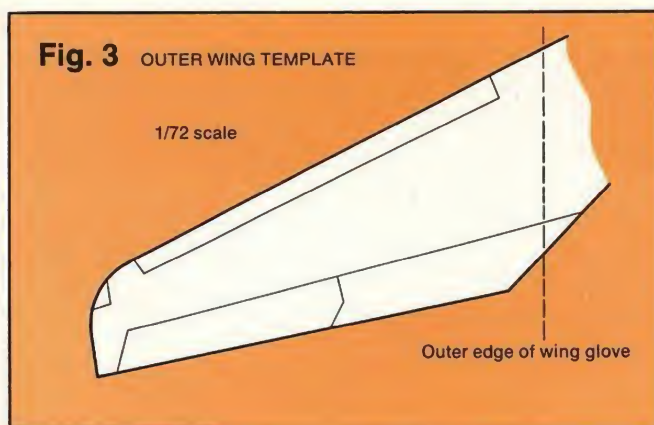


Fig. 2. Dan cut away the outer wings from the VEB kit. Note the slight curl to the leading edge of the inboard section. The kit's outer wings were discarded, the inboard sections serving as the gloves for the scratchbuilt outer wings.

tions, Arab countries, Vietnam, and Peru. First seen in 1979, the latest Fitter versions are the Su-17 Fitter-H and export Su-22 Fitter-J. The airframe was again revised and while the Soviet version has updated avionics, the export model is minimally equipped by comparison. The Su-22 is powered by the Tumansky R-29B with more thrust than the standard Lyul'ka AL-21F-3. Inboard wing pylons to carry AA-2 Atoll missiles provide limited air-to-air capability.

On August 19, 1981, two Libyan Su-22s intercepted a pair of VF-41 F-14 Tomcats from the U. S. S. *Nimitz* on exercises in the Mediterranean. The Libyan pilots made the mistake of firing on the Americans, and both F-14 pilots launched Sidewinders to send the Suk-

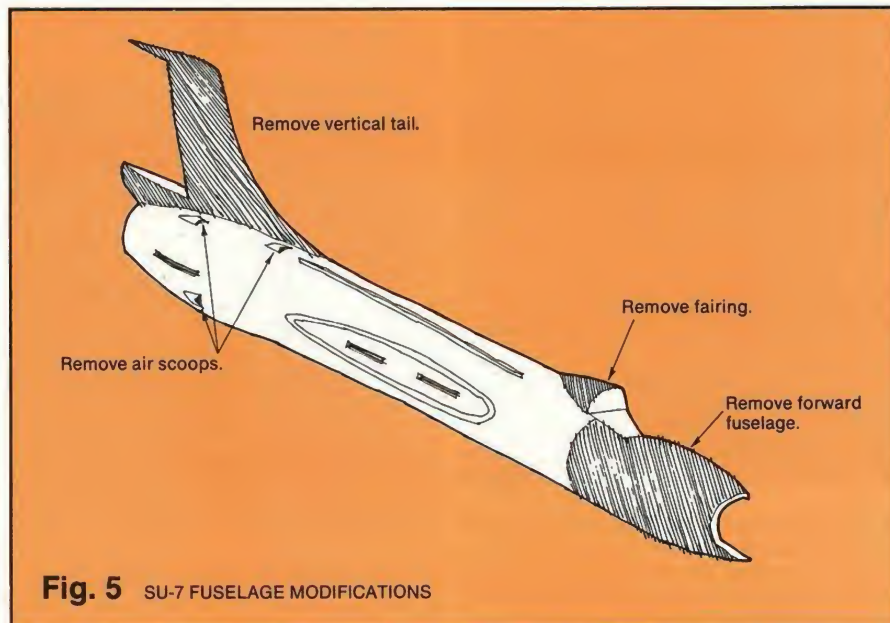


Fig. 5 SU-7 FUSELAGE MODIFICATIONS

hois plummeting into the Gulf of Sidra (see the box on page 35).

The F-14s and their crews became instant celebrities and the VF-41 "Sukhoi Killer" markings became popular among modelers, with decals available in three popular scales. But what about the aggressors... the losers... the other guys? The Libyan Su-22 Fitter-J is the subject of this modeling project.

Fixing a Fitter. Since there is no kit of the Su-17/20/22, I had to convert the 1/72 scale Su-7 produced by VEB Plasticart of East Germany. The kit is sturdily molded and provides a good basis for the conversion. I had to deal with three major areas of conversion, Fig. 1: the wings, dorsal spine/vertical tail surfaces, and forward fuselage. Before I began construction, I studied my reference drawings and photos and carefully planned each step. When attempting a major conversion, it's always a good idea to "build" the model on paper before chopping and bashing plastic. This gives you a plan of attack to follow throughout assembly.

Converting the wings. Since the

variable section of the wing begins at mid-span, the inboard part of the Su-7 wings served as the glove portion. I cut the wings with a slight outboard curl on the leading edge, Fig. 2. Then I removed the fences and sanded off all the panel lines. I cut out a rectangle at the trailing edge of the wing root to accommodate a new flap made from sheet styrene.

Next came the outer wings. I decided beforehand to display the model with the wings swept forward to better emphasize the variable geometry layout. Checking my references, I made a pattern of the outer wing section and cut several examples from .030" sheet styrene, Fig. 3. I laminated them together and carefully sanded the wing to an airfoil shape. Take care not to make your outer wings so thick that they don't fit into the inboard glove section. It's a good idea to sand down the inside of the gloves at the point where the outer wings fit into them. I used the gloves as a guide for shaping the outer wing cross section.

I made the wing fences from .030"

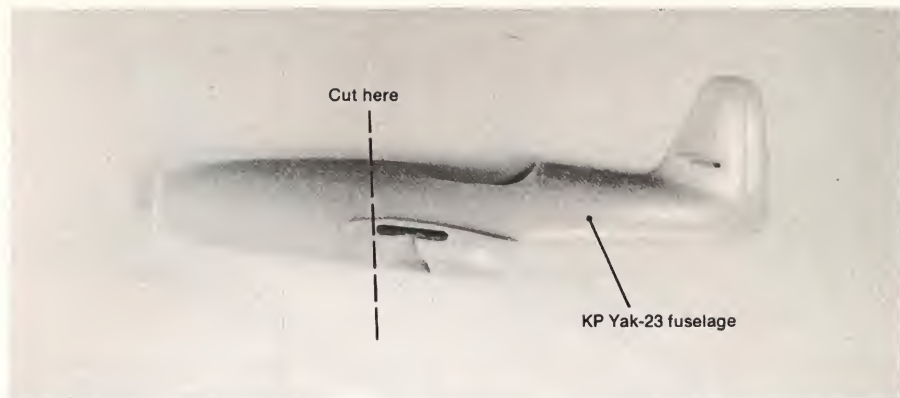


Fig. 6. The nose of the 1/72 scale KP Yak-23 is cut off and attached to the fuselage of the VEB Plasticart Su-7 kit.

sheet styrene, Fig. 4, and used .050" for the weapons pylons. The Atoll missiles and rails were resurrected from my scrap box, and the fuel tanks were made from Plastruct tubing, the ends from Hasegawa MiG-27 kit tanks, and fins cut from sheet styrene.

Nose job. After studying photos and drawings of the Fitter-J, I figured I would have to replace the nose of the Su-7 with one that more closely resembled the drooped look of the Su-22. The problem was finding something to replace it with. After scrutinizing practically my entire kit collection, I found the forward fuselage section of the Kovožavody-Prostějov (KP) Yak-23 had the right look — if I turned it upside down! Using a razor saw, I cut off the Su-7 nose $\frac{3}{16}$ " forward of the canopy fairing. At this point I also removed the vertical fin and the canopy fairing from both halves of the Su-7 fuselage, Fig. 5.

After that, I sawed the nose section from each fuselage half of the Yak-23, Fig. 6, taking care to make the cut at the proper angle to get it to sit correctly on the Su-7. Part of the wing root must be removed from each half and a pair of auxiliary air inlet openings must be

cut out on each side of the nose. It's a bit tricky, so study your reference photos and drawings and dry-fit each nose half to each fuselage half to make sure you've got it right.

The Yak-23 nose is a bit too narrow for the Su-7 fuselage, so I widened the nose with a pair of wedge-shaped spacers cut from .050" sheet styrene, Fig. 7. This kept the inlet diameter the same

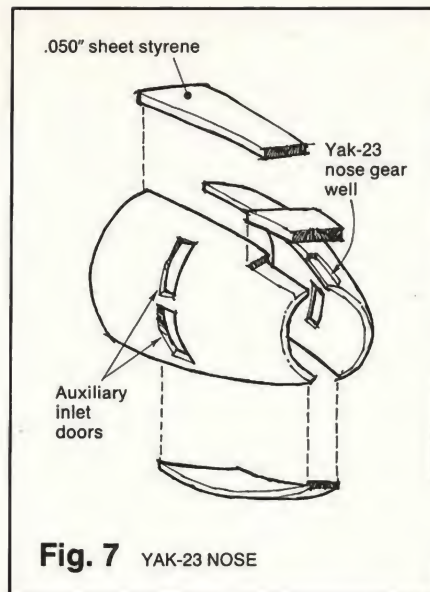


Fig. 7 YAK-23 NOSE

and allowed the rear portion of the nose to fair into the fuselage perfectly. I used the trial-and-error method; after three tries on top and bottom, I finally got the right shape.

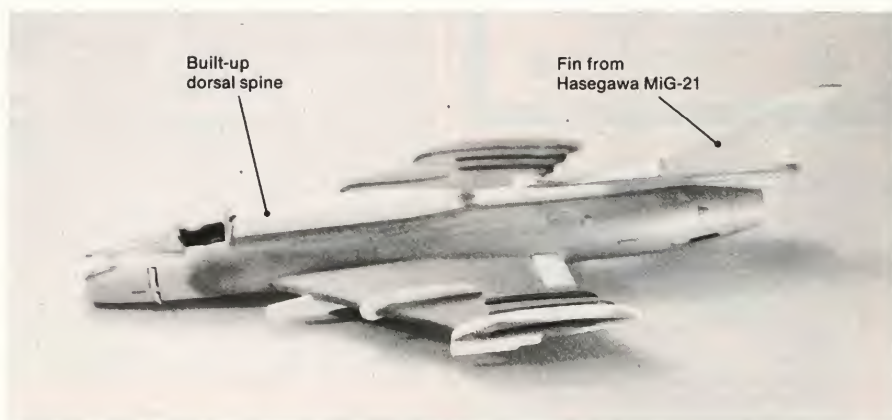
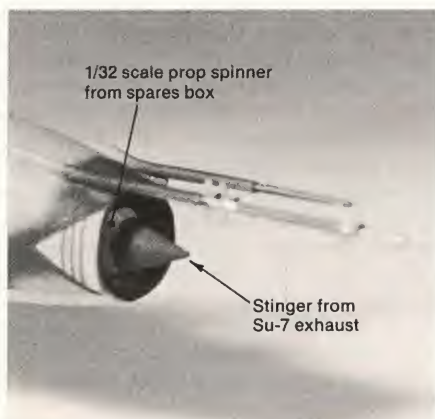


Fig. 9. The Fitter just before painting. The outer wings and horizontal tail planes were painted separately. Note the new flaps and Hasegawa MiG-21 tail.



Don Spring/A. I. R.

Fig. 8. Near head-on view shows the intake shock cone made from a 1/32 scale prop spinner and the stinger of the VEB Plasticart Su-7 exhaust.



Fig. 10. The conversion before painting. Note the large wing fences, built-up dorsal spine, and new nose.

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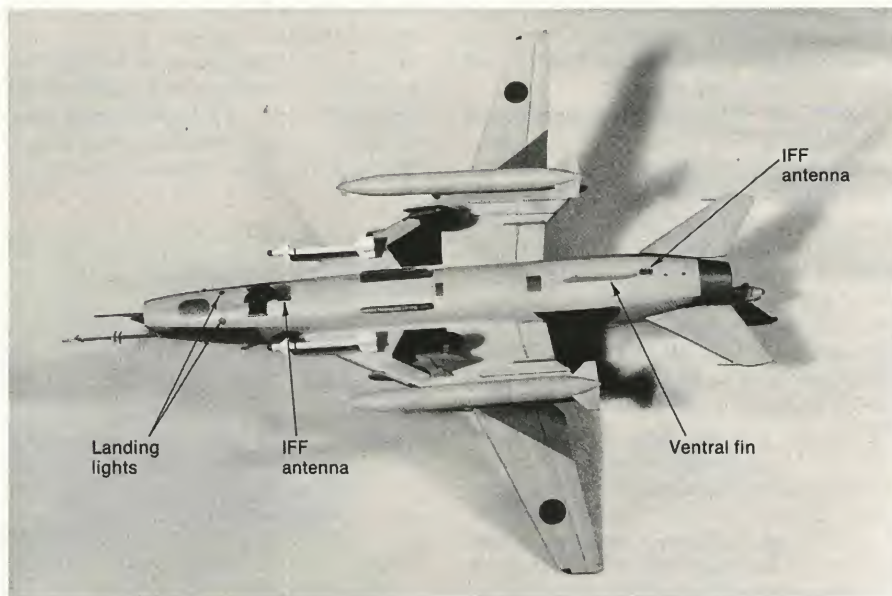
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Fig. 11. Libya's markings are simple green disks on the top and undersides of the wings and a green rectangle on each side of the vertical fin.



Don Sperring / A. I. R.

Fig. 12. The main gear doors, ventral fin, and dual landing lights forward of the nose gear are visible here. IFF aeriels are visible behind the nose gear and ventral fin.

The unwanted nose gear well on top of the intake was filled with scrap plastic and putty and sanded smooth. I had to cut a new cockpit opening and use a razor saw to correct the angle of the air intake, making it perpendicular to the fuselage center line. The intake center body was made from a 1/32 scale propeller spinner and the little "stinger" from the exhaust of the Su-7 kit, Fig. 8.

The cockpit interior was scratchbuilt based on a shadowy photo of an Su-7 cockpit. Cockpit shots of Soviet aircraft are rare, so I just made it look convincing. The ejection seat was also scratchbuilt based on photos of a MiG-21 seat as a reference. After fitting the cockpit assembly into the nose, I cemented the nose to the fuselage, touched up the seams with putty, and sanded them smooth. I made the four auxiliary inlet doors from sheet styrene and cemented

them in place on either side of the nose.

The re-tail business. I chopped off the tail of an old Hasegawa MiG-21 and reshaped it — if I do it again, I'll scratchbuild the tail. The wide and deep dorsal spine aft of the cockpit was made from laminated .050" sheet styrene shaped with a file, a sharp knife, sandpaper, and a lot of patience, Fig. 9. Next, I sanded smooth all panel lines on the fuselage, removed the incorrect ram air scoops, and filled in the recessed flap hinge lines and rudder lines, the two long grooves on either side of the dorsal spine, and the elevator lines on the horizontal stabilizers (the Su-22 has slab tail planes).

Using a scribing tool and a straight-edge, I carefully rescribed all the proper control surface lines on the wings and rudder. Then I cemented the new spine and tail in place and filled

the gaps with putty. I also scratchbuilt the small ventral fin, pitot booms, IFF (Identification-Friend or Foe) antennas, AOA (angle of attack) sensor, landing gear doors, and ram air scoops.

Finishing the Fitter. After assembling the major components, Fig. 10, I prepared the model for painting by applying plastic polish and washing it thoroughly. I left off the outer wings and horizontal tail planes until later to make it easier to paint and decal. I undercoated the model with several thin coats of Pactra Steel and checked for flaws. Next, I masked off the cannon blast panels on both sides of the fuselage (even though the Fitter-J retains only one 30 mm cannon in the starboard wing root) and the radio altimeter panel under the nose. I followed with the undersurface color made from Pactra Aero Blue darkened a bit with a few drops of Pactra Scale Black. When the model had dried, I masked the underside of the model and sprayed the upper sand color made from a mixture of three parts Pactra Mustard and one part Pactra Primer White.

The camouflage brown was mixed by eye to match color photos of Libyan Fitters, using mainly Pactra British Dark Earth and Pactra Terra Cotta. The camouflage green was mixed using Pactra Japanese Army Air Force Green with a few drops of Scale Black added. I airbrushed the bare metal portion of the outer wings with flat aluminum and the jet exhaust area with Steel again darkened with a little Scale Black. The dielectric panels on the wing leading edges and on the fin tip were painted Humbrol Subframe Gray, as were the insides of the landing gear doors.

After all the colors were applied, I airbrushed the model with Testor Clear Gloss to prepare it for decaling. The Libyan markings are simply green circles applied on all four wing positions (some aircraft have them on the fuselage, too) and a pair of green rectangles on the vertical fin, Fig. 11. I airbrushed Humbrol Dagoon Green through a circle template onto clear decal film, cut out the circles, and applied them like any other decal. The odd-looking intake warnings were made from a solid yellow decal and red and dark gray decal striping. After the decals were dry, I sprayed on a clear semigloss overcoat.

Next, I attached the Su-7 kit landing gear (which isn't bad), underwing fuel tanks, and Atoll missiles, Fig. 12. I made new three-piece landing gear doors from sheet styrene. Study the references carefully to get the correct shape and placement of the gear doors. A canopy and windscreen were found in my scrap box and modified to fit the model.

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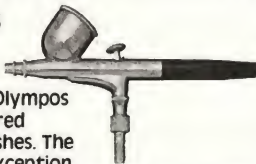


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SOURCES

- Availability of the VEB-Plasticart kit of the Sukhoi Su-7 Fitter and the KP kit of the Yak-23 is irregular, but they should be found in well-stocked hobby shops or through Squadron Mail Order, 1115 Crowley Drive, Carrollton, TX 75011-5010.
- Plastruct, 1161 Monterey Pass Road, Monterey Park, CA 91754.

REFERENCES

- Gething, Michael J., *Warsaw Pact Airpower in the 1980s, Warbirds Illustrated, No. 8*, Arms and Armour Press, London, 1982.
- Gunston, Bill, *Aircraft of the Soviet Union*, Osprey Publishing Ltd., London, 1983.
- *Jane's All the World's Aircraft, 1982-83*, edited by John W. R. Taylor, Jane Publishing Co. Ltd., London, 1982.



Meet Dan DiBacco

Dan has been modeling for over eleven years, and has been a member of the Philadelphia area Delaware Valley Scale Modelers, a chapter of IPMS. His modeling interests include Soviet and German aircraft of all eras, as well as commercial jetliners.

Dan is originally from southern New Jersey, and now lives in Minneapolis. The photo shows him seated in the cockpit of a new Boeing 757 that belongs to his employer, Northwest Orient Airlines.

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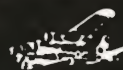


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Modeling a nineteenth-century whale hunt diorama

Composing and constructing “Leviathan” in 1/24 scale

BY BRUCE KNISELY

THERE ARE FEW hard-and-fast rules when it comes to planning and building dioramas, but nearly everyone would agree that hunting scenes, particularly when the hunter and the quarry are evenly matched, provide excellent subject matter. Thus, when I decided to build a diorama showing nine-

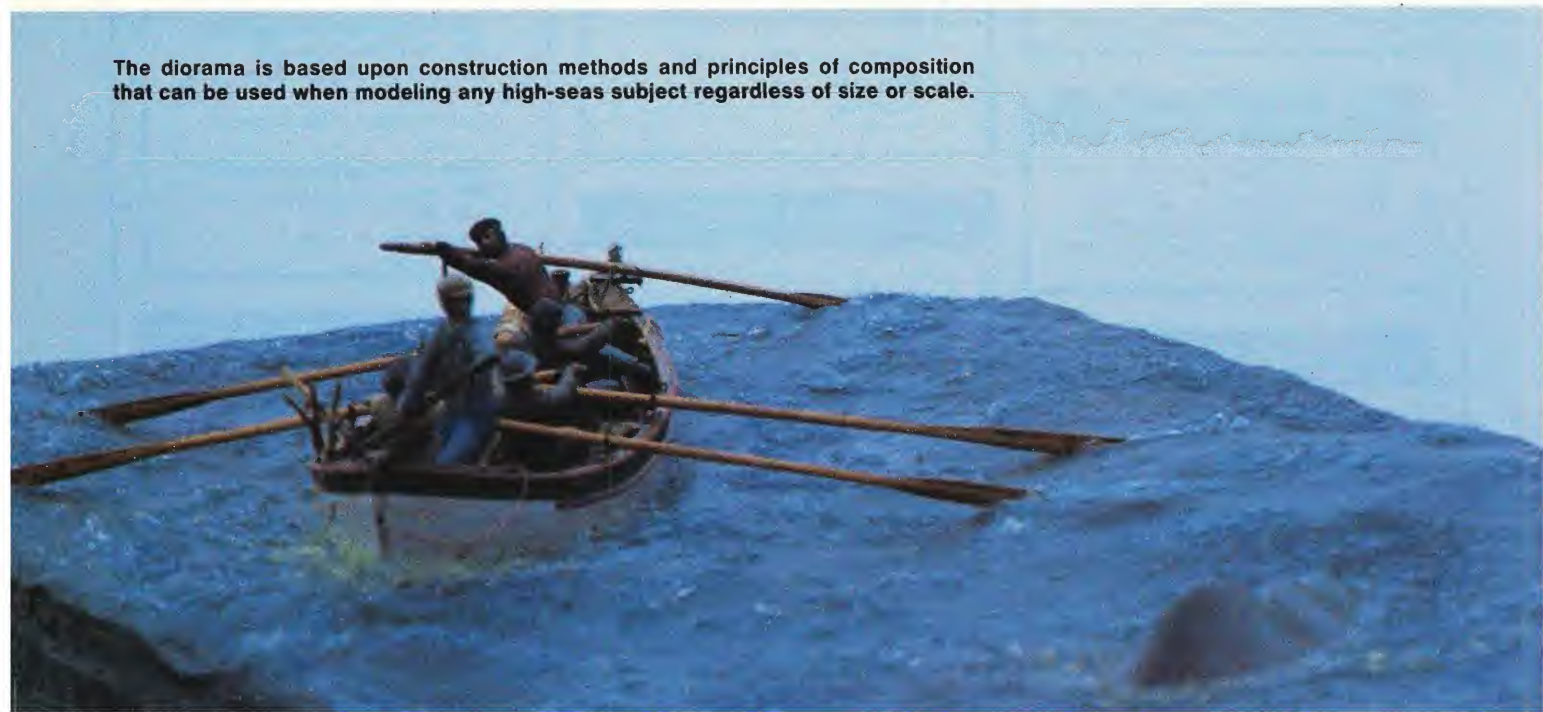
teenth-century New England whalers stalking their prey on the open ocean, I knew I had chosen an inherently dramatic subject.

Planning the scene. I spent many hours pondering various arrangements of the three principal parts of the scene I had in mind — a whaleboat and its crew, a partially submerged whale, and the sea itself. I considered showing a

stove-in boat (depicting a victorious whale), or the kill (depicting victorious men), and even a Nantucket sleighride, when a harpooned whale pulls a boat and its passengers sometimes into the horizon, sometimes into eternity.

I decided on the final moments of a chase when the boat was going in on the whale, a time when either the hunter or the hunted could be the vic-

The diorama is based upon construction methods and principles of composition that can be used when modeling any high-seas subject regardless of size or scale.



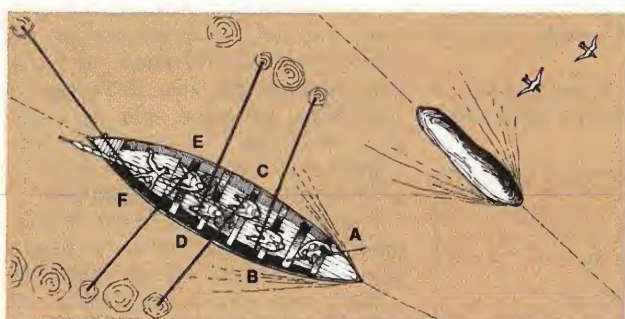


Fig. 1 PRINCIPLES OF COMPOSITION

Not to scale

- | | |
|--------------------|-------------------|
| A. Harpooner | D. Tub oarsman |
| B. Bow oarsman | E. Stroke oarsman |
| C. Midship oarsman | F. Mate |

Unlike boxed dioramas where the observer's viewing angle can be severely restricted, an open scene must be carefully composed so that it is attractive when examined from many positions. Each element must contribute to the overall effect, just as each sailor in the whaleboat has an assigned task.



The many interesting wave patterns around the hull and the oars help convey a sense of motion to the entire diorama.



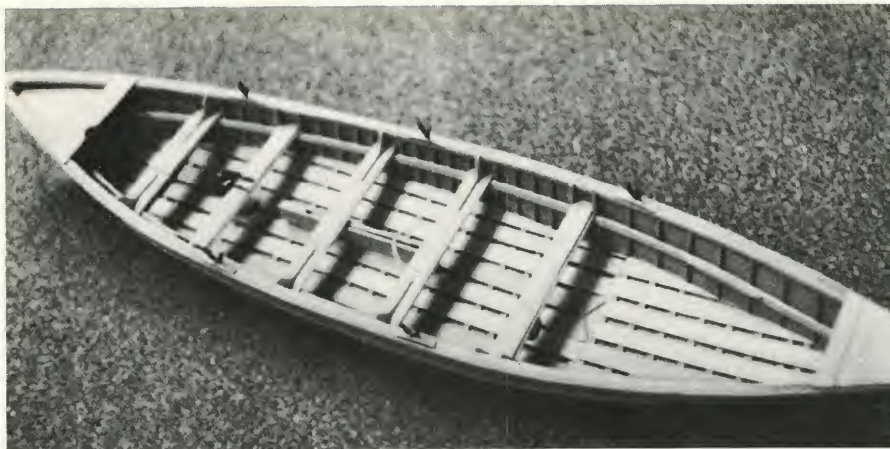


Fig. 2. Bruce carved the whaleboat hull from a solid block of jelutong, then fashioned the ribs, seats, and other interior details from thin wood strips.

tor. The hunters would be close to striking range, yet the whale could at any moment sound far below the surface to the safety of the deep.

Next I chose a size and scale. I decided on 1/24 scale, 1/2" to 1', partly because I had already purchased 1/24 scale plans for an 1870 New Bedford whaleboat from Preston's (addresses of firms mentioned in this article are on page 46), and partly because in 1/24 scale the scene I envisaged would fit nicely in a 15" by 30" space, leaving sufficient ocean around the 15"-long boat and the whale's back.

Refining the concept. To save space and to keep the scene from looking too

regular, I decided to place both the boat and the whale in the water at an angle. This made room for the long steering oar and the rowing oars, yet allowed the favorite hunting approach to the whale, which is from the aft and preferably the starboard side, Fig. 1.

After sketches showed this arrangement was feasible, I prepared crude mock-ups of the boat and whale from blocks of wood and used these to refine the plan. It soon became evident that placing the boat on the downward slope of a wave would really help suggest movement.

For dramatic effect, I also decided to pose each oarsman with his arms fully

extended; to place the mate on the steering oar, swinging the boat closer to the whale (note in Fig. 1 that the whale and boat are on slightly converging courses); and to position the harpooner at the ready, waiting to strike.

Building the boat. Working from the Preston plans, I prepared sheet Mylar templates and used these as guides while carving the boat hull from a solid block of jelutong, a medium-soft, nearly grainless wood that's popular with decoy makers. I then detailed the inside of the hull with thin strips of wood to represent ribs, seats, and other boards, Fig. 2.

The oars are strips of wood cemented into slots in the ends of dowels, as shown in Fig. 3, which also shows how to shape the blades and handles with sandpaper and a sharp knife.

I then carved and painted the whale and set it and the boat aside while I worked on the diorama's base and the ocean.

Assembling the base. I built the base from 3/4"-thick sheet polystyrene insulation foam, first forming a 15" by 30" open-topped box with its sides and ends shaped to the curvature I had planned for the ocean waves, Fig. 4, then gluing pieces of styrene foam inside the box to form a lattice. The lattice further defined the contours of the ocean surface, provided cradles in the sea for the boat and whale, and greatly strengthened the base. For glue, I used insulation adhesive sold in caulking gun cartridges by hardware stores, though any other glue that doesn't dissolve styrene foam would be fine.

I stuffed crumpled paper inside the open spaces in the lattice to help support the window screen cloth that I glued to the plastic foam after setting the whale permanently in place.

Simulating water. At this point I nearly became stymied. I couldn't yet work on the men because their positions depended on the placement of the oars. The oars couldn't be installed because their positions were determined by the relationship of the boat and the water. The water couldn't be applied because the oars couldn't be permanently attached — they had to be removable so that I could paint and detail the boat — yet I wanted to sculpt waves around the oar blades.

It was a vicious circle, so I compromised by deciding to apply the water around the whale and the boat at this time, but to leave the areas near the oars bare until later. I masked the outside of the hull with thin plastic tape so that the boat could be removed.

To simulate water, I first applied a 1/4" coat of Terrain wood fiber plaster (sold in hobby shops for model railroaders who use it to build scenery on their layouts) to the screen cloth. The Ter-

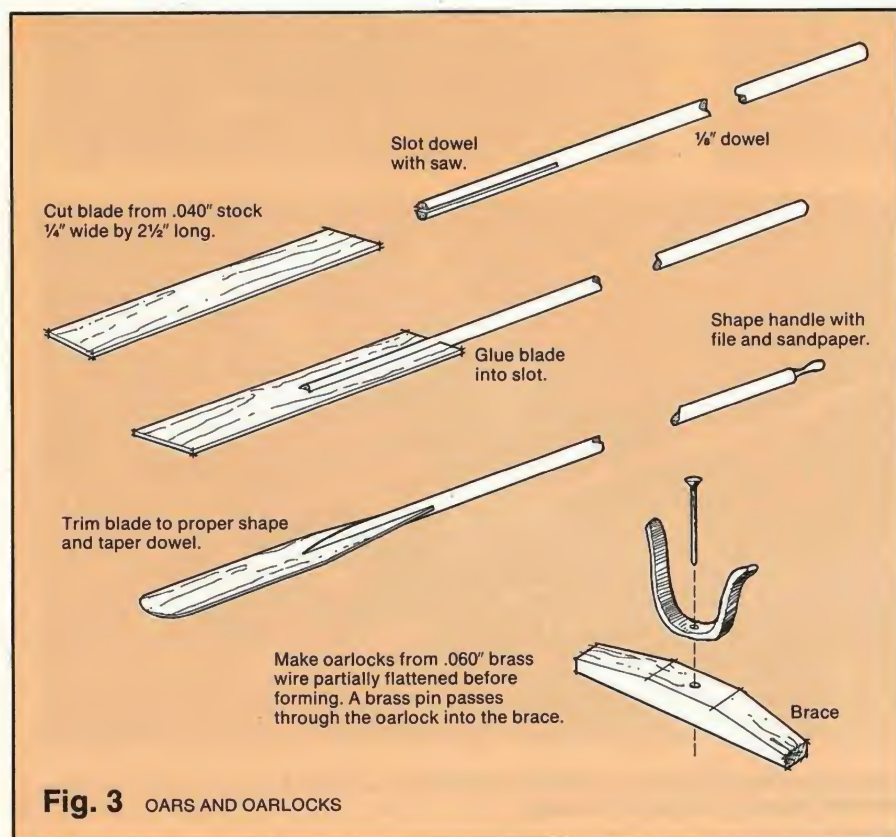


Fig. 3 OARS AND OARLOCKS

rain, which has a working time of 15 to 20 minutes after it is mixed with water to an oatmeal-like consistency, filled the openings in the screen, leaving a smooth, firm surface, Fig. 5.

After the Terrain hardened completely, I brushed on several coats of Easyway primer to seal the plaster and then applied a thick coat of Liquitex gesso. To help bring out the texture of the water I stippled the paste-like gesso with a 2"-diameter piece of carpet tacked to a short dowel. I spread the gesso right up to the hull, working it into waves at the bow and into ripples along the sides of the boat and around the whale.

Much later, after the boat, its equipment, and the figures were nearly complete, I painted areas representing relatively calm water with several dark blue Winsor & Newton artist's oils, but used white oils for swirling, foaming water, especially at the bow and around the oars. Finally, to make the water look wet, I sprayed on several coats of clear gloss urethane varnish.

Next, I made the oarlocks and braces, Fig. 3, and installed them on the gunwales.

Preparing and posing the figures. Building the figures turned out to be a project in itself. I first considered carving each man from wood but decided that would be too time-consuming and chose instead a combination of casting and sculpting.

I made a rubber mold for a torso, two arms, two legs, and a head, which I cast from a mixture of Chemco polyester casting resin and Du Pont 212s polyester auto body filler, making one set of castings for each figure. These castings were simply shapes without details.

The next step was to place a torso for each oarsman on its seat, setting the back at the correct angle for that figure's arm position, which was determined by the placement of its oar. I then attached the legs to the torso with brass wire and adjusted the knee and ankle joints for proper fit. The brass wire was flexible enough that I could bend the joints as necessary, but rigid enough to hold the parts in place until I froze each joint with a dab of 5-minute epoxy and then built up the remaining portions of the joints and limbs with A+B epoxy putty. The arms and head were attached and adjusted in the same way.

Using a Foredom flexible-shaft motor tool with a $\frac{3}{4}$ " sanding disk, I removed about $\frac{1}{16}$ " from those surfaces of each figure that would be clothed to make room for shirts and trousers that I then made by applying thin layers of epoxy putty. At this time I also carved the faces and detailed the shoes and boots.

Modeling harpoons and other gear.

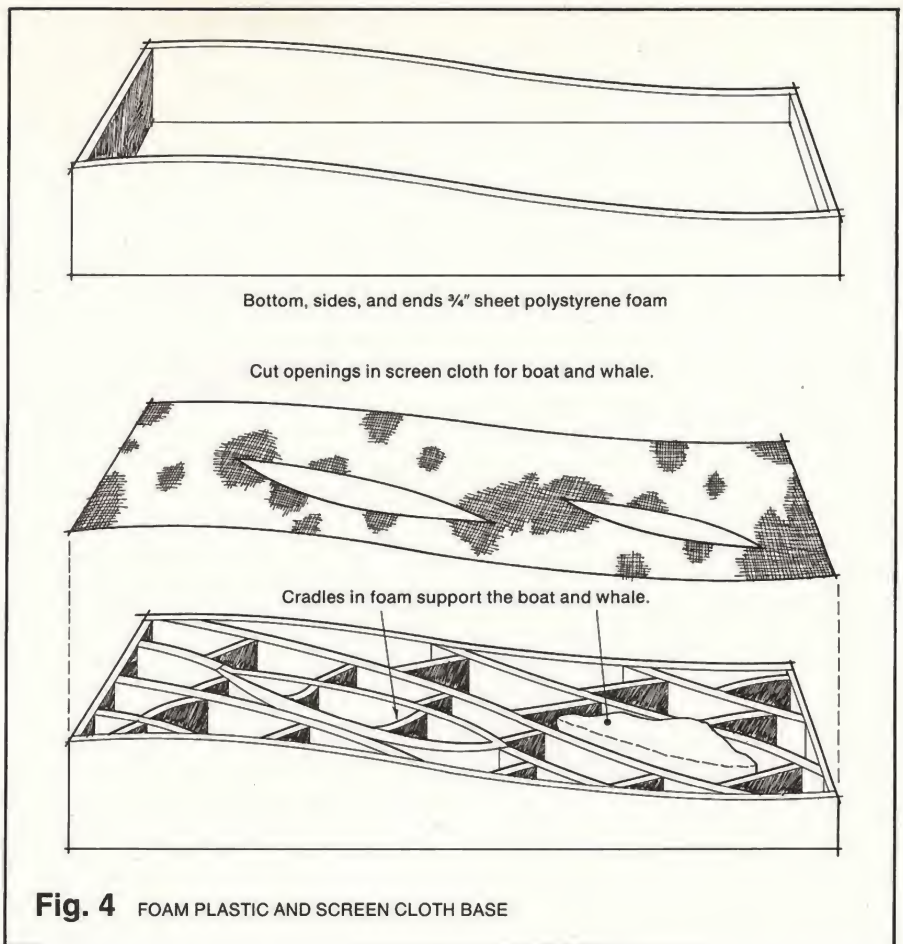


Fig. 4 FOAM PLASTIC AND SCREEN CLOTH BASE



Fig. 5. Bruce applied a $\frac{1}{4}$ "-thick coat of Terrain wood fiber plaster over the window screen cloth to fill the openings in the screen and to provide a solid base for Easyway primer and Liquitex gesso. At this point the boat and oars have been temporarily mounted to check for correct placement.

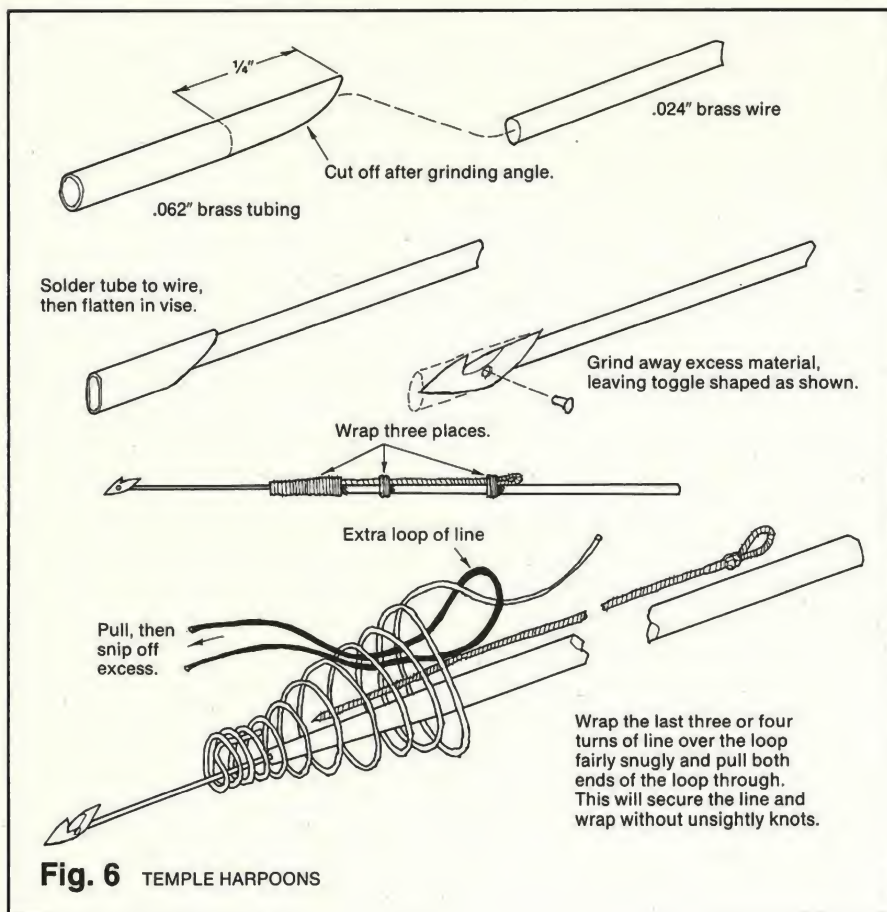


Fig. 6 TEMPLE HARPOONS

I now removed the boat from its cradle, peeled off the masking tape I'd applied earlier, and began work on the five harpoons, three lances, two line tubs, and various buckets, knives, and other items, including the sail furled on its mast, that would go in the whaleboat.

The most appropriate harpoon for a whaling scene of the 1870s is a type invented in 1848 by Lewis Temple of New Bedford, Massachusetts. Its most important feature was a 7" swivel head, called a toggle, that was attached by a strong rivet to a 42" iron shaft mounted to a 72" wooden pole. A slender wooden pin through the shaft and toggle held the toggle straight until the harpoon entered a whale. A pull on the line then broke the wooden pin and the toggle swung open, holding the harpoon firmly in the whale. My 1/24 scale Temple harpoons, Fig. 6, don't have a working toggle, but do look realistic.

I darkened the toggle and shaft by dipping these parts in a chemical called Blacken-It until they acquired the look of weathered iron, then rinsed them with water to prevent further darkening. I darkened all other metal parts — such as lance shafts, knives, oarlocks, and eyebolts — the same way. Blacken-It is used primarily by model railroaders, so look for it in the model railroad section of your hobby shop.

The line was lashed to the harpoon

and lance handles with silk thread, using a fisherman's fly-tying technique, Fig. 6.

Painting the figures and the boat. I now painted the water with Winsor & Newton artist's oils and clear urethane varnish as described earlier. After applying a light coat of primer, I painted the figures, again using Winsor & Newton oils and sticking to subdued blue, brown, gray, dark red, and off-white colors for the men's faded clothing and headgear.

I airbrushed flat enamels for the white, black, and beige areas on the outside of the hull and sealed the interior with several leftover wood stains from my paint cabinet.

The outside of the hull is lightly weathered with small patches of flat black enamel dry-brushed onto areas that would be scuffed on a real whaleboat; I added a few more signs of wear with a pencil. On the interior, I gently rubbed a small piece of fine steel wool on those surfaces — the rails, the boards between the seats, and the seats — that would be most heavily worn.

Because I had planned extensively before construction and had test fitted each component many times, final assembly was straightforward. I cemented the boat into its cradle, put the oars into the oarlocks, set the oarsmen, mate, and harpooner inside the boat,



Meet Bruce Knisely

Bruce is 37, married, and the father of a 4-year-old daughter and a 9-year-old son. He and his family live in Painesville, Ohio, where Bruce is an engineer for Bailey Controls Co. He thanks his family and fellow employees for their encouragement and support.

In addition to building models and large dioramas, Bruce enjoys wood carving and violin making; other interests include coaching a YMCA youth soccer team and participating in a men's Bible study group.

installed the line tubs and other equipment, and applied simulated water to the areas around the oars I'd earlier left bare, locking the oars in place.

As a finishing touch, I carved two seagulls and placed them in flight near the whale. Their white and light gray plumage and spread wings add a pleasant contrast to the scene. **FSM**

SOURCES

- Whaleboat plans: S. T. Preston & Son, Inc., Main Street Wharf, Greenport, NY 11944.
- Flexible-shaft motor tool: Freedom Electric Co., Bethel, CT 06801.
- A + B epoxy putty: Brookstone Company, 127 Vose Farm Road, Peterborough, NH 03458.
- Blacken-It metal darkener: A-West, Box 5746, San Bernardino, CA 92412.
- Artist's oil paints: Winsor & Newton, 555 Winsor Drive, Secaucus, NJ 07094.
- Terrain wood fiber plaster: Terrain, 26212 Euclid Avenue, Willoughby, OH 44094.
- Easyway primer: Plasti-Kote Co., 1000 Lake Road, Medina, OH 44256.
- Liquitex gesso: Permanent Pigments, Inc., Cincinnati, OH 45212.
- Clear gloss urethane varnish: Miller-Stephenson Chemical Co., Inc., Danbury, CT 06810.
- Polyester casting resin: Chemco, San Leandro, CA 94577.
- Du Pont 212s polyester auto body filler: E. I. du Pont de Nemours & Co., Inc., Wilmington, DE 19898.

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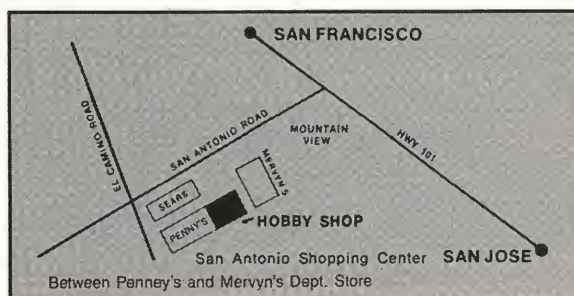
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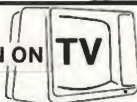
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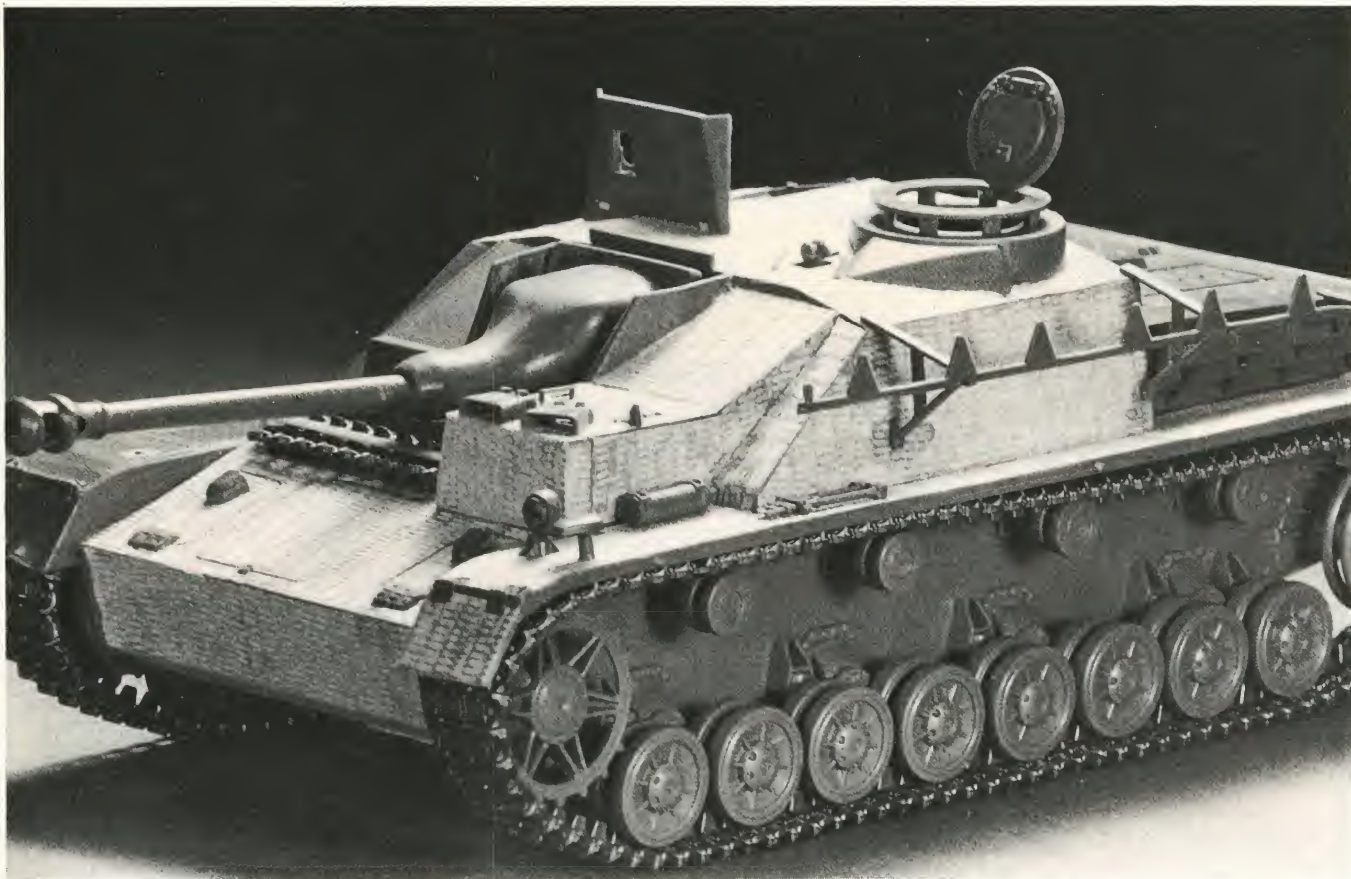
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Paper Zimmerit requires no special preparation for painting, though water-base paints should not be used as primers.

Simulating Zimmerit — with paper!

The secret is the cement

BY DICK HIRDES

ZIMMERIT WAS an antimagnetic paste applied to the exterior of many German armored vehicles from mid-1943 until the end of World War Two. It was troweled on by hand, most often in fairly regular parallel lines, and was intended to prevent magnetic mines from sticking to the vehicle.

Frederic Tourdre, a French modeler, had tried several methods for reproducing Zimmerit without finding one that he was really happy with. Modelers usually simulate Zimmerit with body or filler putty worked into rows with a pointed stick, but Frederic thought that this method was messy and often gave unsatisfactory results — the pattern was too irregular.

While having lunch one day, he picked up a paper napkin and suddenly noticed that its border was embossed with a nearly perfect Zimmerit design — the shape was good, the pattern was regular, and the paper was the cor-



Fig. 1. These are the only tools and materials required. The inset photo shows the paper napkin's embossed pattern considerably enlarged.

rect thickness for 1/35 scale models, Fig. 1. His napkin, by the way, was one of the better-quality "dinner napkins" sold in grocery stores, not the flimsy sort found in fast-food restaurants.

Pieces of napkin would make first-rate Zimmerit on his German armor models, assuming there was some way to attach the paper without destroying the plastic or the paper.



Fig. 3. Clean edges and seams are easy to achieve with paper Zimmerit.

Searching for an adhesive. That evening, experimenting on pieces of scrap plastic, Frederic tried out his idea, seeking a suitable adhesive. It soon became obvious that white glue was not going to work. Whether used straight from the container or diluted with water, the glue soaked into the paper, ruining the delicately embossed pattern.

Next, Frederic tried a powerful solvent, trichloroethylene, which softened the plastic but which also evaporated quickly; the plastic hardened before he could work the paper into position.

Testor liquid plastic cement finally provided the answer. Two carefully brushed on coats partially dissolved the plastic, which remained soft for several minutes. When Frederic gently pressed the paper onto the softened plastic, enough plastic oozed into the paper to hold it securely in place.

After the cement dried he airbrushed a coat of paint onto the paper and, yes, it looked good.

Applying paper Zimmerit. So to work on the 1/35 scale Italeri Sturmgeschütz IV (available in the U. S. from Testor as kit No. 829). The Sturmgeschütz IV was an assault gun and tank destroyer on a tank chassis that was produced from December 1943 through March 1945; photos of the vehicle often show it liberally coated with Zimmerit.

Frederic cut out sections of napkin with a sharp pair of scissors, leaving two sides oversize. He then applied two thin coats of Testor liquid plastic cement, waited for the plastic to soften, and gently pressed a section of napkin onto the plastic with tweezers, Fig. 2. He stroked the paper into its final location with a soft, long-bristle watercolor brush. After the plastic hardened, he trimmed the paper with a scalpel (an X-acto knife or single-edge razor blade would also work) and sealed its edges with more Testor cement.

In addition to being clean and so inexpensive as to be practically free, Frederic's technique lets you position the Zimmerit precisely, as shown by Fig. 3.

FSM



Fig. 2. Brush the paper into position on the cement-softened plastic. Remove excess paper with a scalpel or other sharp knife after the cement dries.



Frederic Toudre's 1/35 scale Sturmgeschütz IV with paper Zimmerit has been caught in a storm produced by a spray can of Christmas-decoration plastic snow.

Jerry's 1/48 scale Koster Ju 88 is a large but well-engineered vacuum-formed kit that features optional parts to produce any one of seven different variants. Note the penciled-on panel lines.



(Above) Jerry detailed Falcon's 1/48 scale Ta 152H with parts from Monogram's Fw 190A kit. (Below) Koster's P-51/P-51A/A-36 conversion fuselage used with the Monogram 1/48 scale P-51B kit. Injection-molded detail parts and decals are also included.



Building your first vacuum-formed aircraft kit

Easy kits and proper techniques make for success

BY JERRY HOFFMAN

TO THOSE WHO have never tried a vacuum-formed model, and to those who've tried one and met frustration or failure, read on. Vacuum-formed models aren't difficult to build, but they do require different construction techniques than injection-molded kits. Once mastered, a fine vacuum-formed kit looks every bit as good as an injection-molded kit.

Why build vacuum-formed kits in the first place? If there is no injection-molded kit of a particular subject, you're faced with either building a vacuum-formed kit (if one is available) or scratchbuilding. Vacuum-formed kits are less expensive to produce than their injection-molded counterparts because a manufacturer doesn't need to invest thousands of dollars having steel molds cut and doesn't have to produce and sell hundreds of thousands of kits to recoup his investment. Therefore the subject he chooses doesn't have to appeal to the masses. Sometimes a thousand or only a few hundred kits are made from a mold.

Getting started. You may be tempted to build a complicated vacuum-formed kit on your first try. Don't. It's

important to start with an easy kit and complete it successfully before moving on to more complicated kits. I recommend starting with a well-designed conversion kit like the Koster Aero Enterprises 1/48 scale P-51/P-51A/A-36 which converts Monogram's P-51B to the Allison-engined, three-blade-prop Mustangs. The kit has some injection-molded parts and decals.

Other good starter kits are Falcon's 1/48 scale Ta 152H and the Wings 48 Thomas Morse Scout. I added Monogram Fw 190A detail parts to the Ta 152H to save considerable time and energy. Although not as simple, Koster's 1/48 scale multiple version kit of the Ju 88 is well engineered and can be your introduction to larger, multiengined, vacuum-formed models. This kit also includes injection-molded parts and decals.

Study the instructions. Some vacuum-formed kit instructions skimp on assembly directions and provide detailed three-view drawings instead. In these cases, you'll need to visualize the assembly steps as you proceed. Look over the kit instructions and parts and take notes.

If certain detail parts are unacceptable or absent from the kit, check

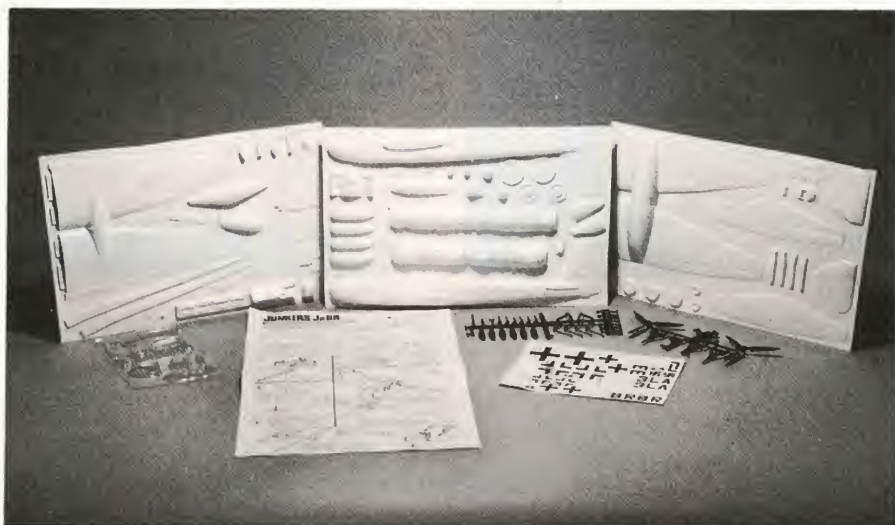
through your spares box, or find an inexpensive injection-molded kit that has parts suitable for your project.

Vacuum-formed kits are getting better all the time. More manufacturers are including injection-molded plastic or metal landing gear, props, engines, and seats, and decals are becoming more common.

Now, let's go through building a typical vacuum-formed aircraft kit step by step. Since different types of models will have different problems, I'll be using four different kits in the illustrations: Koster's Ju 88 and P-51, the Wings 48 Thomas Morse Scout, and Falcon's Ta 152H.

Sources

- P-51 and Ju 88 — Koster Aero Enterprises, 233 East Ellis Avenue, Libertyville, IL 60048.
- Ta 152H — War Eagle, Inc., P. O. Box 255, New Baltimore, MI 48047.
- Thomas Morse S4C Scout — Wings, 3349 Wildridge Drive, NE, Grand Rapids, MI 49505.



FINESCALE MODELER: Paul A. Erier

Here's Koster's Ju 88 kit as it comes out of the box. Note the detailed instructions, injection-molded parts, and decals.



Meet Jerry Hoffman

Jerry has been a modeler since the 1940s, first building balsa and tissue models, then making the transition to plastic kits as soon as they appeared. His primary interest is 1/48 scale aircraft, and more recently, vacuum-formed kits. A member of the International Plastic Modelers Society and Cross and Cockade Society, Jerry lives in Champaign, Illinois, where he is national sales manager for Central Data Corporation. Jerry's workshop is in his den so he can share his modeling time with his wife, Jean.



Step 1. Cutting the parts from the sheet. To prevent losing small parts, remove them from the sheet only as they are needed for assembly. First, cut around the part, leaving extra plastic along the edges, **A**. Then score along the edge of the part with a sharp knife held at about a 45-degree angle, **B**, and snap the extra plastic away, **C**. Try this a few times on scrap sheet styrene; usually one pass of a sharp blade is enough. You'll find out how much pressure is needed to snap the parts off the sheet. To keep from distorting the dihedral of Falcon's Ta 152H wing, I cut the extra plastic away in sections.

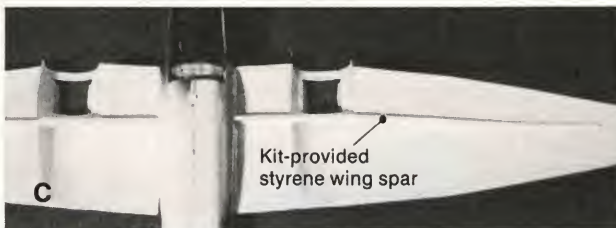
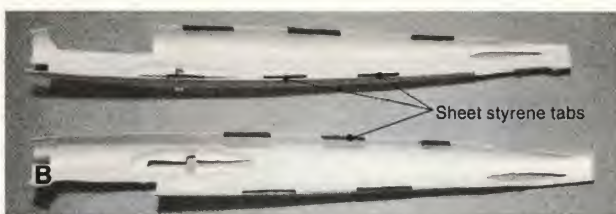
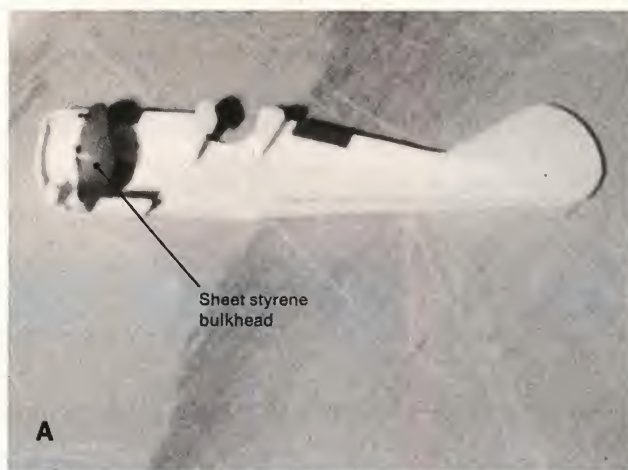
Be careful with the clear parts — usually you can't snap off the excess plastic because the clear material is thinner and more flexible than opaque styrene. You'll need to trim away as much as you can with scissors and sandpaper.



Step 2. Sanding. Care and patience are the bywords here. Once the parts are removed from the sheets, sand the edges to remove the excess plastic and provide smooth, flat bonding surfaces for assembly. Mount a sheet of 320-grit sandpaper to a flat board or workbench with double-sided tape or spray adhesive. You can add a little water to wet-or-dry sandpaper to avoid clogging or "loading" the sandpaper with plastic dust. Move each part in circles to avoid uneven sanding, **A**. Applying too much pressure could result in unevenly sanded edges.

Sand the fuselage halves before cutting out the cockpit, engine cowl, jet exhaust pipe, or wing openings, **B**.

Next, sand the wings and tail planes. Be careful not to remove too much plastic or generate too much heat that could warp or destroy the thin trailing edges, **C**. Hold small parts with double-sided tape or tape-loop handles, **D**. Glue sandpaper to dowels for sanding inside cowls or exhaust pipes, **E**. I have several different dowel diameters and sandpaper grits for different tasks. Test fit the parts occasionally to make sure you don't sand too much.

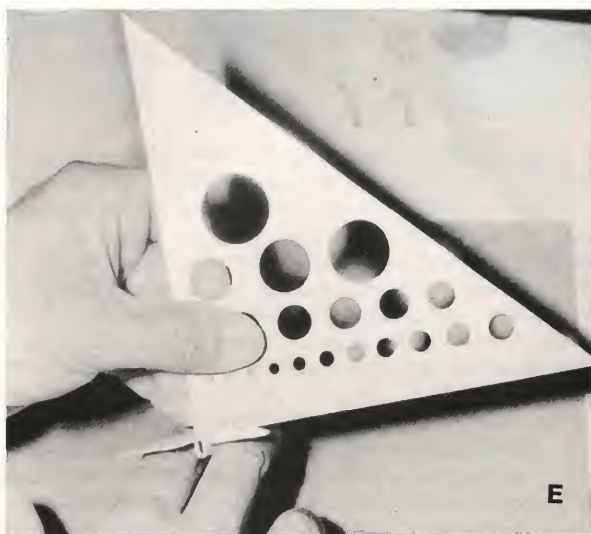


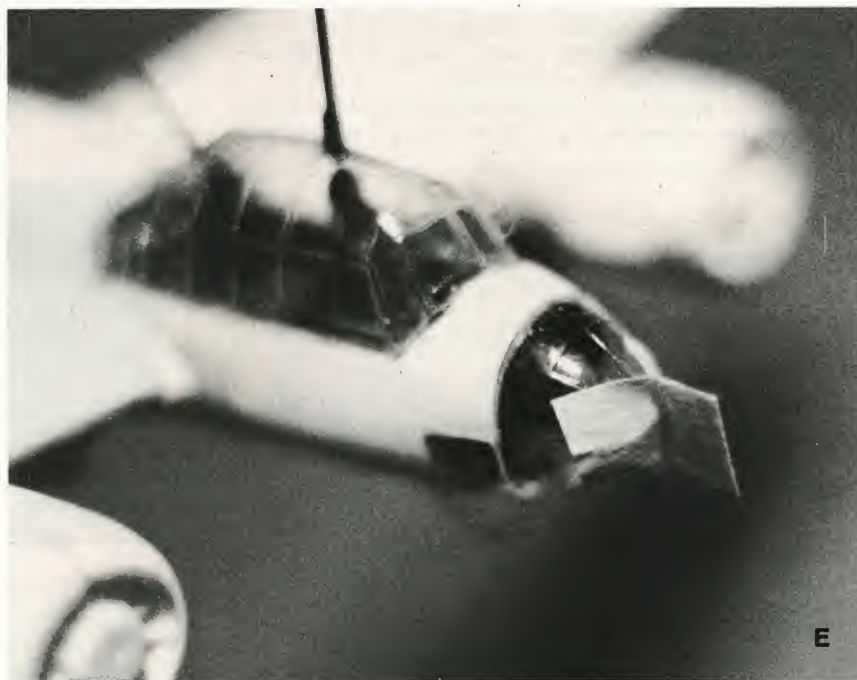
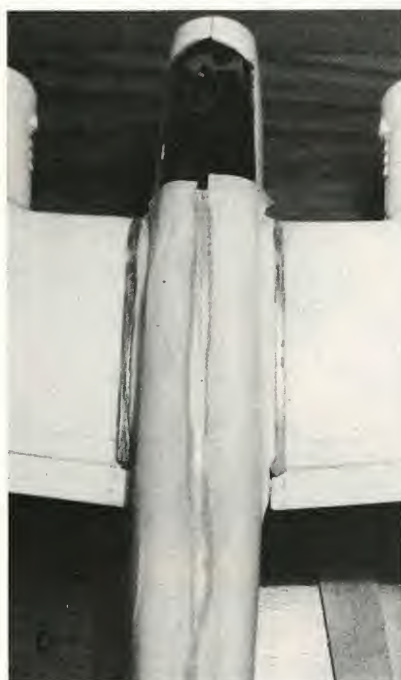
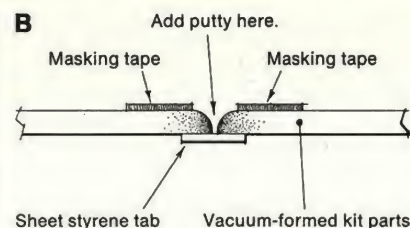
Step 3. Assembly. The parts of most vacuum-formed kits are thinner than those found in injection-molded kits, so it's a good idea to reinforce fuselage assemblies with bulkheads made of sheet styrene, **A**. The fuselage halves are difficult to glue together so I add $\frac{1}{8}$ " x 1" sheet styrene tabs, **B**, to provide extra bonding surface for the adhesive to grip. The tabs and bulkheads provide enough strength to keep the fuselage from buckling while filling and sanding seams. I use minute amounts of tube-type plastic cement to assemble vacuum-formed kits — too much can distort the thin plastic parts. For difficult joints I use super glue (cyanoacrylate).

I add wing spars to my vacuum-formed models. Without spars, the wings tend to deform during construction

and may sag after they're mated to the fuselage, particularly on large models. Few vacuum-formed kits include spars, so I make mine from plastic, **C**, wood, or stiff wire, **D**. It takes time to achieve the correct spar dihedral and taper for a particular wing, but it's time well spent. Once you get the correct dihedral, tack the lower wing halves to the spar with white glue.

Next, align the horizontal stabilizers and fin. The fin is normally part of the fuselage structure and is usually 90 degrees to the horizontal stabilizers. The correct angle can be checked with a triangle, **E**, protractor, or a small woodworker's combination square. The wings are easier to align when the fin and stabilizer can be used as references.





Step 4. Filling seams. My favorite filler putty is Duro Plastic Aluminum, **A**, but many other products can do the job. To keep from obscuring or removing surface detail when filling and sanding seams, apply a strip of masking tape to each side of the seam, **B**. The tape prevents filling and sanding away the adjacent panel lines. When the putty is dry, **C**, sand the seams until the tape is almost sanded through, **D**. Remove the remaining tape and clean up the seams with fine files and 400- or 600-grit sandpaper.

The clear parts in most vacuum-formed kits are thin and sometimes hard to work with. The Koster Ju 88 canopy was especially difficult since it involved small clear parts attached to the main canopy. Dry-fit the clear parts to the fuselage. It's easier to alter the fuselage to accom-

modate the clear parts than to attempt to modify clear parts — nothing detracts more from a finished model than a marred or ill-fitting canopy. I attach clear pieces with white glue — it doesn't craze the plastic and if I make a mistake I can wipe away the glue with a damp rag. I often use looped masking tape as a handle while shaping and attaching clear parts, **E**.

Here's a painting tip for the Ju 88: To make the large ventral gondola more realistic, I masked the clear areas and painted the interior color (dark charcoal gray) over the entire gondola. Then, I applied a coat of the exterior camouflage color over that. When done, the interior frame color is visible through the clear windows while the correct exterior color covers the outside of the structure.



Step 5. Finishing. No special paints are needed on vacuum-formed kits. Any model enamel or lacquer can be used with the usual precautions. To restore panel lines lost in construction and sanding, I find it easier to draw them on with a fine lead pencil than to rescribe them.

FSM



Post-World War One regulations ordered the national insignia inboard of the ailerons, lending the cross-eyed look to the Wings 48 Thomas Morse S4C Scout.

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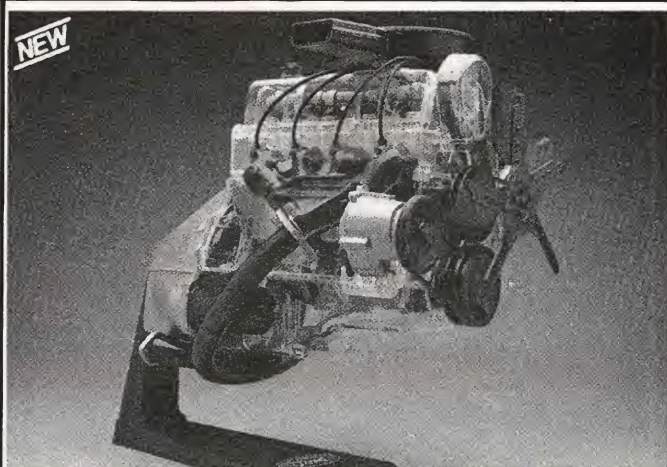
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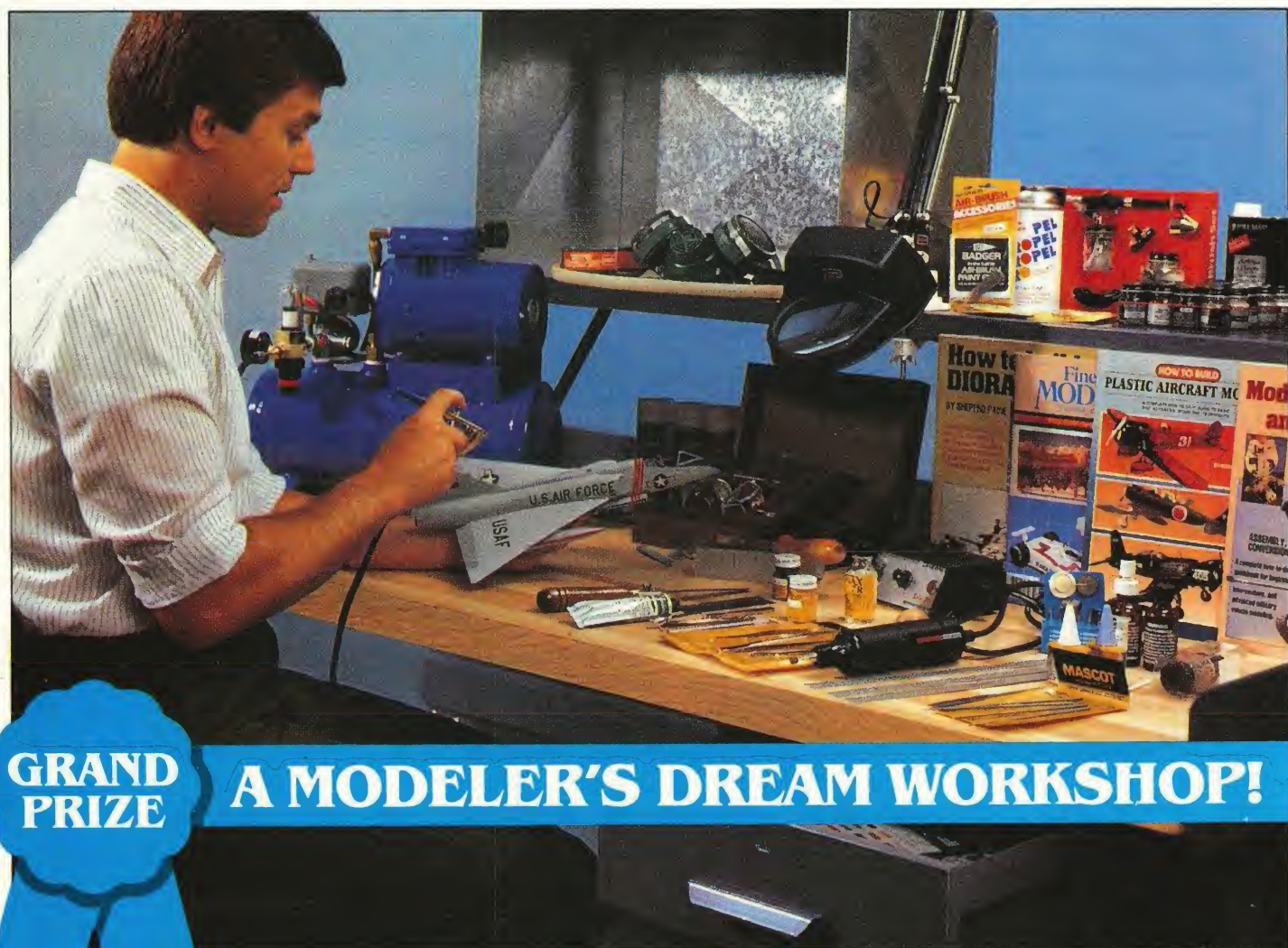
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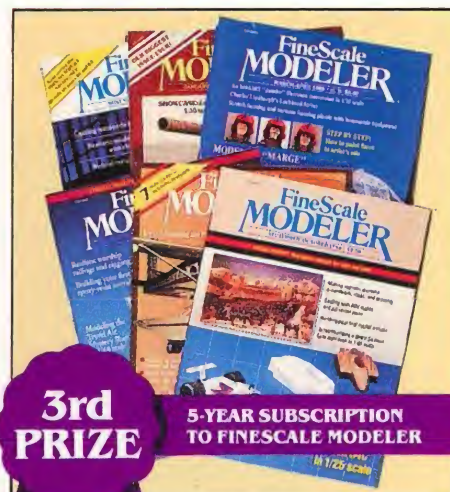


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Adding an enclosed body to an Opel Blitz 3-ton truck

An easy 1/35 scale conversion — it could be your first



Figs. 1 and 2. The author's model represents a typical Opel Blitz 3-ton truck with rear drive and an enclosed body. The German armed forces used thousands of these vehicles on all fronts during World War Two.

BY GERARD DEYGAS

ITALERI PRODUCES an excellent 1/35 scale injection-molded plastic kit (No. 216) of the German Opel Blitz 3-ton truck that was manufactured by the tens of thousands and used in many versions from 1938 until the end of World War Two. In this article, I'll describe how to replace the stake body provided in the Italeri kit with the standard enclosed body that was found on more than 100 variants of the 3-ton truck. The color photos, Figs. 1 and 2, show the completed conversion; Fig. 3, a photo of the Italeri box art, shows the Blitz with the stake body — as you can see, only the body is changed in this conversion.

We will build the chassis and cab straight from the box, then assemble and detail the enclosed body, using sheet styrene and stretched sprue parts, Fig. 4. Full-size templates for the body parts are on page 62 and I've included painting and weathering instructions, so this is an ideal project for beginners.

Building the cab and chassis. Assemble the cab as shown in Steps 1 and 2 of the kit instructions. In Step 2, be especially careful not to damage the tool holders and other fragile parts that are mounted on the front fenders.

I upholstered the seat with toilet paper soaked in diluted white glue and worked the paper into folds to represent worn, rumpled fabric. You'll probably want to do the same, but don't get carried away — these trucks were not dustbins.

Paint the seat, door handles, steering wheel, parking brake handle, and gear-shift lever any semigloss black. Paint the cab interior with a 50/50 mixture of Humbrol Matt White (FE34) and Dark Earth (FE29) — all paints are Humbrol unless stated otherwise.

Using a stiff paintbrush, spread a little silver Rub 'n Buff onto the cab floor to represent scuffed metal areas. Prepare a darker blend of Matt White and Dark Earth and use this to simulate mud splashes on the floor and seat. Apply small patches of Rust (HS216) and Matt Black (FE33) as desired for other types of wear and tear.

Because the driver's door is open and the windshield and side windows won't be installed until final assembly, stuff Kleenex inside all openings in the cab as protection from paint overspray.

Continue through Steps 3, 4, and 5, assembling the frame, suspension, engine, radiator, drive shaft, differential, fuel tank, and related parts per the kit instructions.

Step 6 shows how to assemble the stake body. Discard all of the parts shown there except 88, which you'll later trim to form the floor for the enclosed body.

In Step 7 discard parts 106, 107, and 108 but save the fenders, number plates, toolboxes, and taillights.

Building the enclosed body. Using the full-size templates on page 62, cut out the enclosed body parts from .020" sheet styrene. Place the floor template in Fig. 6 onto kit part 88 and trim 88 to make the floor.

Glue the rear doors (5 and 6) onto (3) as shown in Fig. 5. Add door handles and hinges made from thin sheet plastic and stretched sprue.

Glue doors (11, 12, 13, 14) onto the right side (2); then glue pieces (8, 9, 10) onto the left side (1). Again, add handles and hinges.

Make the horizontal bars and the frames around the windows from 1/16"-wide strips of .010" sheet plastic.

Now glue together the sides, ends, and floor, forming an open-topped box. The bottom edges of the sides and ends should rest on the floor along its edges. Reinforce all right-angle joints with wood strips epoxied in place or with Plastruct angle stock.

OPEL BLITZ

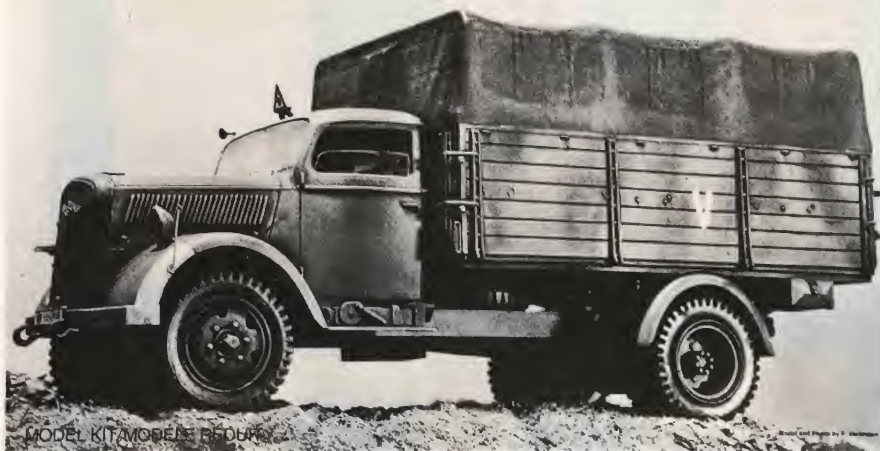
German Truck
3 (t) Type S

1:35scale

N. 216



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FINESCALE MODELER: A. L. Schmidt

Fig. 3. This really is an easy conversion — you'll simply replace the kit's stake body with a sheet styrene enclosed body.

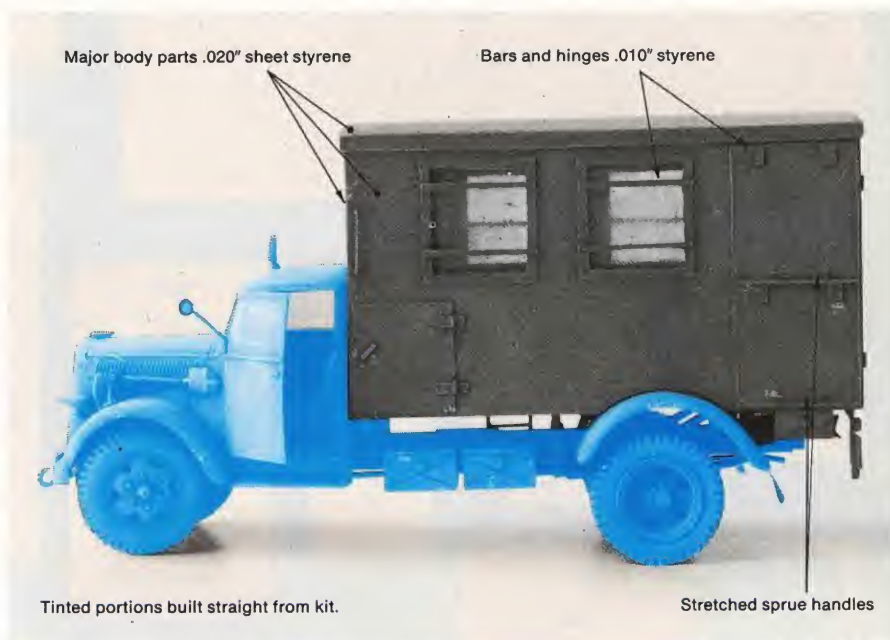


Fig. 4. Here's an overview of the conversion. Nearly all of the body parts are flat pieces of sheet styrene; only the roof is curved.

Paint and weather the inside of the body just as you did the cab. Install chairs, workbenches, radios, packs, and other equipment appropriate to your truck's assignment.

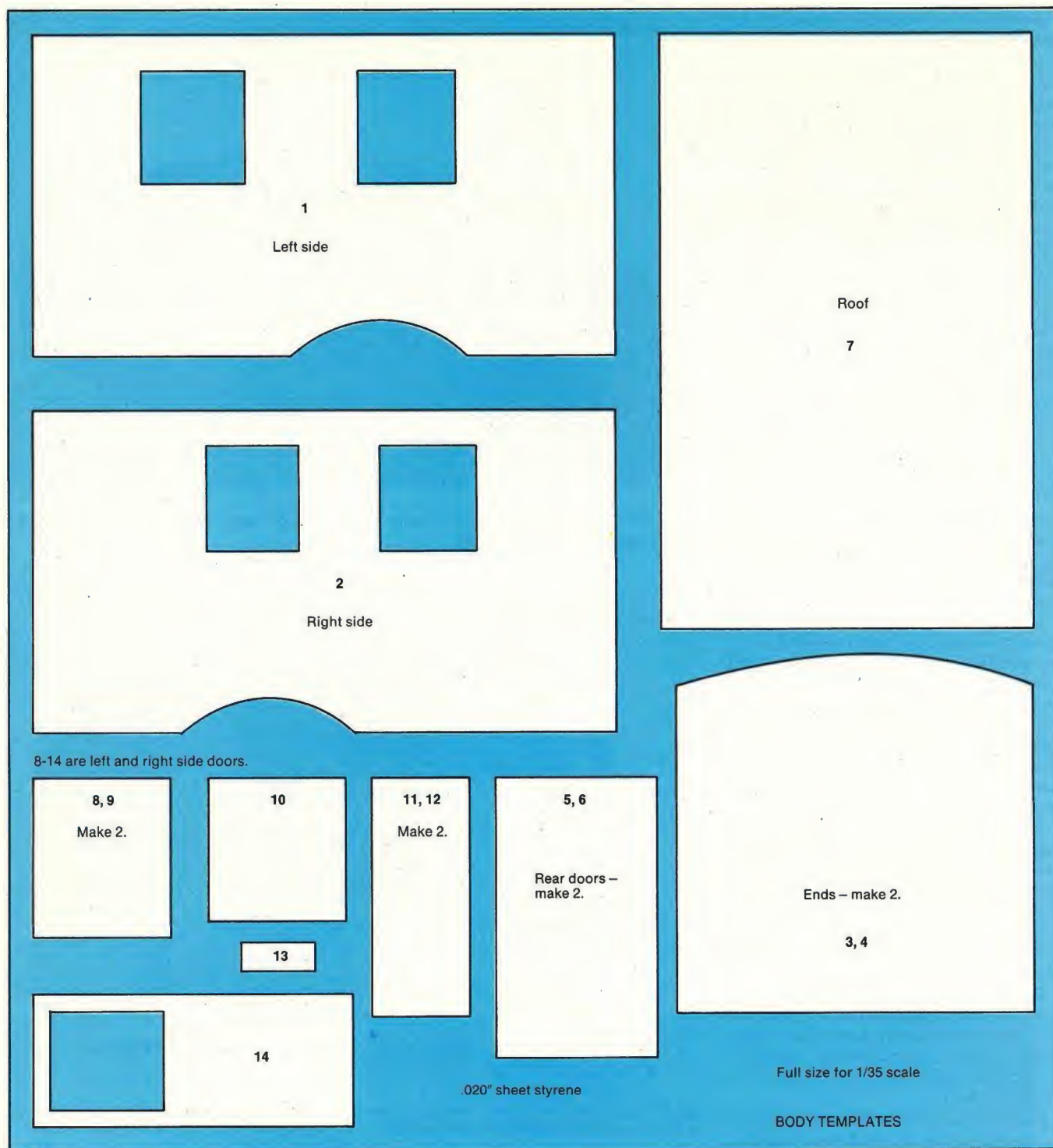
Make the windows from thin clear sheet plastic, gluing the panes in place inside the body. When the glue dries, coat each pane with liquid masking film for protection while you paint and weather the rest of the model.

Place the roof (7) in hot water for a few minutes to soften the plastic, then shape it to the curvature shown in the rear view drawing in Fig. 5. Secure the

roof against the tops of the ends and sides with masking tape, apply liquid plastic cement or super glue, and leave the tape in place until the glue dries. Then add the arched parts to the ends of the roof and the straight parts to its sides — cut these from .020" sheet styrene. Fill and sand as required.

Install the right side steps, made from scrap plastic, Fig. 5, and the kit rear fenders, toolboxes, number plates, and taillights. You may want to add mud flaps made from tracing paper to the rear fenders.

Finally, glue the floor to the frame as



shown in Step 7 of the kit instructions.

Painting and weathering the exterior. Airbrush a coat of German Panzer Grey (HM4) onto the entire model. When this dries, spray on a light coat of Sea Grey Medium (HB6). Next, using a paintbrush, apply a coat of diluted Matt Black to raised areas such as handles, hinges, and rivets to bring these into greater relief.

Let the model dry for at least 24 hours, then dry-brush random areas with Panzer Grey and Dark Earth, aiming for a splotchy, weathered effect.

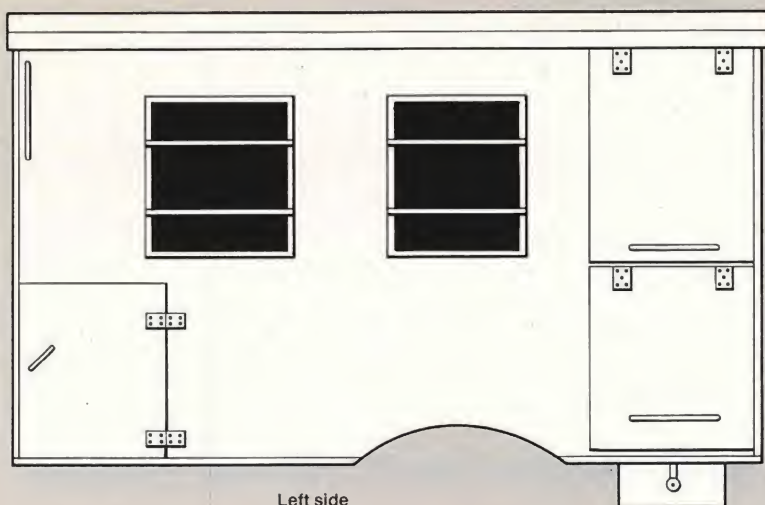
Use a wide paintbrush with short bristles and dab up excess paint with a cotton swab or piece of paper towel. Dry-brush a few areas with Matt White. Continue weathering by adding patches of Rust or any burnt sienna paint, Matt Black, and Silver (MC17) at appropriate locations.

Paint the tires Matt Black and Panzer Grey, then dry-brush on patches of Dark Earth. Similarly, paint the muffler and tail pipe with diluted Rust or burnt sienna and dry-brush with Matt Black.

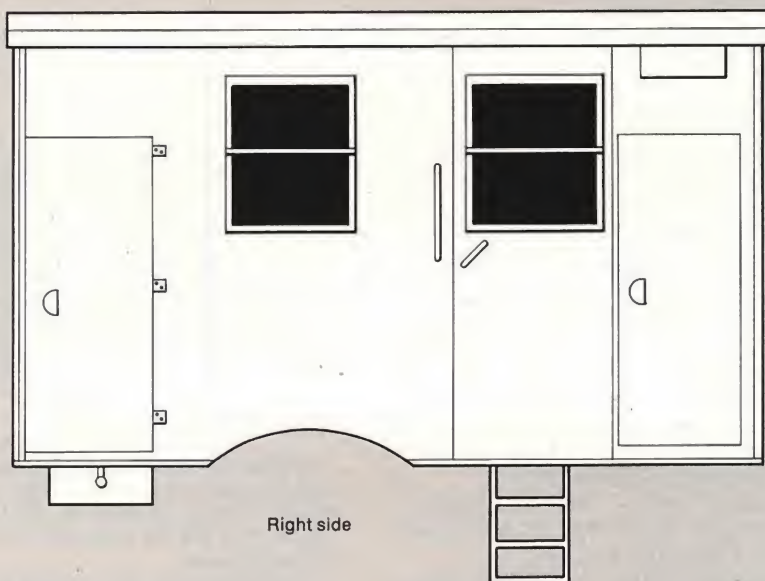
Prepare a dilute mixture of Panzer Grey and Dark Earth and spray a very light coat — just enough to make the other paints look faded — onto the entire model.

Apply the decals, adding a few drops of white glue to the decal-soaking water to ensure they'll adhere firmly. Wick off excess water from the model with a small piece of paper towel.

Remove the Kleenex stuffing from the cab, install the windshield and cab side windows, and peel off the masking film from the body windows.

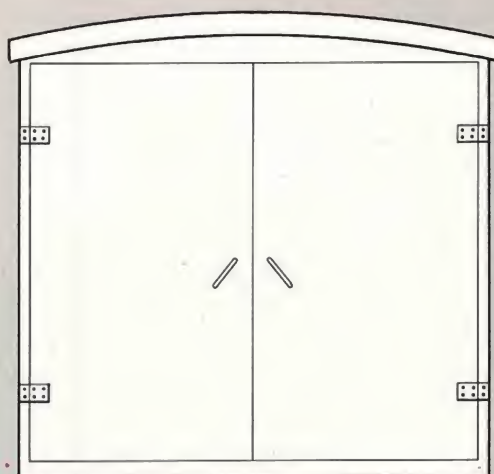


Left side



Right side

1/35 scale



Rear

(Front is identical, without doors)

Fig. 5 SIDE AND END VIEWS

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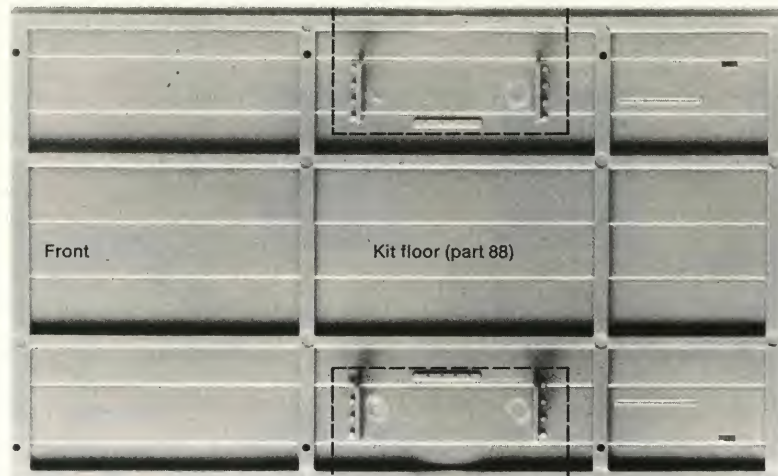
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Using a saw or hot knife, remove the areas inside dashed lines from kit part 88, then clean up the edges with fine-toothed files.

Fig. 6 MODIFYING THE KIT FLOOR

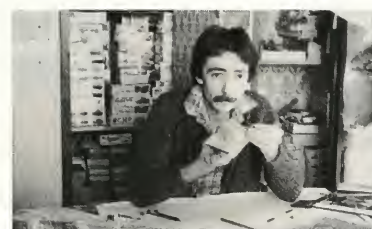
Full size for 1/35 scale

Finally, spray on one more light coat of the Panzer Grey and Dark Earth mixture, applying the mixture a little more heavily to the chassis and lower portions of the cab and body than to the upper portions. This final coat also removes the gloss from the decals, helping them blend into the rest of the model.

FSM

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- Milsom, John, *German Military Transport of World War II*, Arms and Armour Press, London, 1975.
- Spielberger, Walter J. and Uwe Feist, *Militärfahrzeuge: German Softskinned Vehicles of WW2*, Aero Publishers, Inc., Fallbrook, California, 1970.



Meet Gérard Deygas

Married, 29, with two children, Gérard Deygas is a supervisor for the Atomic Energy Society; he lives in the south of France near the historic city of Avignon.

A modeler since 1977, Gérard specializes in tanks and other military vehicles, figures, and dioramas.



The author's model is fairly heavily weathered but has no battle damage. If you plan to show damage on your model, be aware that the body panels on full-size Blitz trucks were made not from plywood or sheet metal, which were extremely scarce in wartime Germany, but from pressed cardboard.

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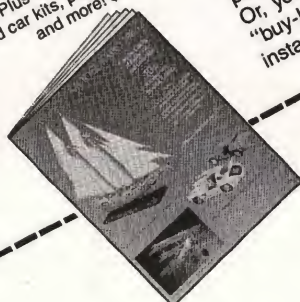
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(Above and below) This Tamiya 1/6 scale Suzuki Katana was built by Laine Wright of La Habra, California. Laine stripped the chromed parts and painted them with various shades of Metalizer; the rest of the model was finished with — count 'em — Floquil, Tamiya (bottle and marker), and Testor paints. Laine thanks IPMS/La Habra for the backdrop and lighting.



FSM READER GALLERY



Jeff Stockham of Rochester, New York, modeled this MiG-17 F (Fresco-C) in 1/72 scale. He started with a Hasegawa kit, and replaced the PF radar nose with a plain intake ring. The wings, stabilizers, and vertical tail were all modified; the cockpit was scratchbuilt. He removed all panel lines and rescribed the correct configuration, then added North Vietnamese markings. Photo by Tom Johnson.



(Above) Miami modeler Pete Harlem built this 1/48 scale AH-1G from two Fujimi kits: the fuselage of an AH-1S, and the nose from an AH-1J. Pete changed details and applied markings to replicate the aircraft on which he served as crew chief for 8 months in Vietnam. He adds: "She was a veteran of over 700 flying hours and one crash landing. The heavy weathering is consistent with a unit that flew too often to allow time for cleaning anything but the markings on the tail fin. I used to wipe the soot off with a rag soaked in JP-4." David Tipps took the photo.

(Below) This 1/72 scale F-15A, made by combining a Hasegawa F-15C with the main gear from an Airfix F-15A, is the work of Mark Shanks of St. Charles, Missouri. It features a detailed cockpit and extra details in most other areas as well. Mark, an engineer for McDonnell Douglas, writes that "access to the aircraft and TOs [technical orders] to check on certain details" is a big help in modeling.

Show off your handiwork! Send original color transparencies (slides) or black-and-white enlargements (5" x 7" minimum). Mail photos, with complete caption information, to FSM Reader Gallery, 1027 North Seventh Street, Milwaukee, WI 53233. Payment for photos used will be made upon publication; unused photos will be returned if you provide postage and packaging materials.

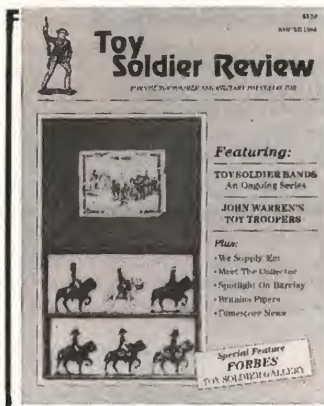




(Top and above) David Kimbrell of Staunton, Virginia, built these 1/35 scale vehicles based on Hollywood war movies. The Tamiya M3 Lee is "Lulubelle" from the 1943 Humphrey Bogart film *Sahara*. The ersatz "Tiger" from *Kelly's Heroes* combines Nichimo parts with pieces from Tamiya Tiger I and T-34 kits.

A Mitsuwa 1/20 scale jeep was the start of an extensive detailing project for Bob Williams of Columbus, Ohio. Bob reworked almost every area of the kit, from adding the wire cutter on the front bumper to redetailing the jerry can. Best of all, he reports that after completing the project, he realized that he'd "totally enjoyed it." Bob, Cheryl Bell, and Dave Gray took the photos.





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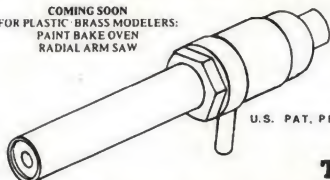
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BY BURR ANGLE



The UH-1C Huey

Pete Harlem has prepared and published this 56-page, soft-cover, 8 1/4" x 11" book on the Bell UH-1C helicopter gunship as used by the U.S. Army in Vietnam from 1965 through 1970. There are 100 black-and-white photos, many showing aircraft details and weapons, and 1/48 scale drawings containing front, right and left side, top, and bottom views of a UH-1C.

The text describes the helicopter's development and deployment, discusses its color schemes and markings (including those applied to eight specific UH-1Cs), and tells how to modify the 1/48 scale Monogram Huey Hog kit to represent a UH-1C.

The book is available from Cobra Company, 8842 Southwest 72nd Street, J-258, Miami, FL 33173, for \$6.50 plus \$1.50 shipping.



Nouveau Guide des Maquettes d'Avions en Plastique

This "new guide to plastic aircraft modeling" by Alain Pelletier is a handsome 6 1/2" x 9 1/2", 188-page, hard-cover book that concentrates on showing beginners how to assemble plastic aircraft models from injection-molded kits. Information on painting, decaling, detailing, weathering, and diorama building is also included.

There are 203 photos (53 in color) of full-size and model aircraft and 12 drawings. The text and captions are in French, but nearly all of the pictures are self-explanatory—many show details on full-size aircraft.

The book is published by Editions Ouest-France, 38 rue du Pré-Botté, 35100 Rennes, France. The price in France is Fr60.00 (about \$6.85); contact the publisher to obtain the current price in other countries.

Aerospace Balloons

This 112-page, 7 1/4" x 10 3/4", soft-cover book by Edwin J. Kirschner contains 159 black-and-white photos and 18 sketches. The text discusses hot-air balloons and other inflat-



able devices from the 1780s to the present, but concentrates on U.S. military and scientific balloon experiments since 1945, including manned high-altitude flights and inflatable artificial satellites.

The book is published by Aero Publishers, Inc., 329 West Aviation Road, Fallbrook, CA 92028; the price is \$9.95.



F-14 Tomcat

The eighth volume in the Modern Fighting Aircraft series, this 64-page, hard-cover, 10 1/2" x 14 1/2" book by Mike Spick contains chapters on the F-14's development, structure, power plant, avionics and armament, performance and handling, and combat and deployment. There are 158 photos and other illustrations, nearly all in color, many provided by Grumman or the U.S. Navy.

Other volumes in the large-format series cover the F-15 Eagle, F-16 Fighting Falcon, F-111, F-4 Phantom, Harrier, A-10 Thunderbolt II, and F/A-18 Hornet. The books are published in the U.S. by Arco Publishing, Inc., 215 Park Avenue South, New York, NY 10003; the price is \$11.95 each.

Colors & Markings of the F-14 Tomcat

This 64-page, 8 1/2" x 11", soft-cover book by Bert Kinzey contains 211 photos (63 in color) showing F-14s assigned to all U.S. Navy Atlantic Coast squadrons from 1974 through 1984. The Grumman prototypes and F-14s based at the Naval Air Test Center, Patuxent River, Maryland, are also included. Aside from a brief introduction, the text is limited to captions for each photo.

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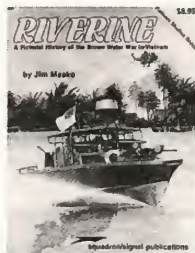




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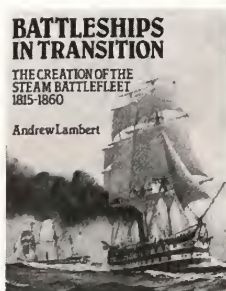
Riverine

Jim Mesko prepared this 64-page, soft-cover, 8½" x 11" book containing 158 photos (16 in color) and 23 color renderings by Don Greer. The text describes coastal and riverine operations by French, Vietnamese, and U. S. Navy units in Vietnam from 1945



through 1972, but focuses on U. S. Navy operations from 1965 through 1968, particularly those of Task Force 115 (Market Time), which patrolled coastal waters; Task Force 116 (Game Warden), which was in charge of riverine forces; and Task Force 117 (Mobile Riverine Forces), which operated primarily in the Mekong Delta.

The book is published by Squadron/Signal Publications, Inc., 1115 Crowley Drive, Carrollton, TX 75011-5010; the price is \$8.95.



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Andrew Lambert is the author of this 200-page, 7½" x 10", hard-cover book that examines the development of the wooden steam battleship from 1815 through 1860, primarily in the British Royal Navy. Lambert explores the effects of steam power, the screw propeller, and the shell-firing gun on ship design in this period and concludes that the wooden steam battleship was an essential step in the transition from sail-powered ships to the ironclads of the 1860s.

There are 85 black-and-white photos, 8 drawings, many tables of ship specifications, an index, and a bibliography.

The book is published in the U. S. by Naval Institute Press, Annapolis, MD 21402; the price is \$18.95.

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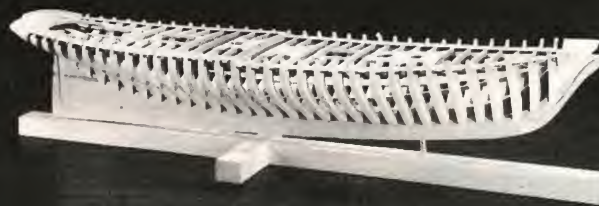
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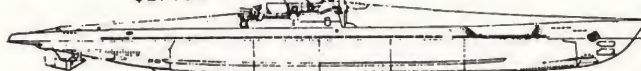
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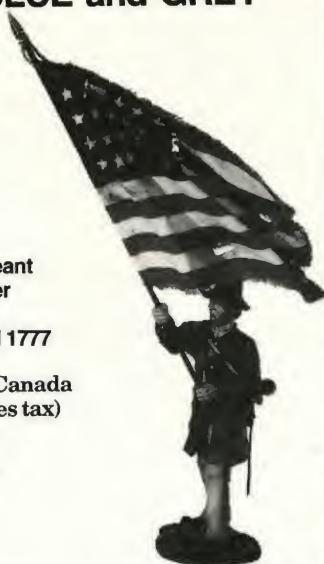
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BY BURR ANGLE

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On scratchbuilding — and improving FSM.

I think FSM improves with every issue. Although every article may not be something I'm interested in, I find techniques, tips and tricks of the trade that I can apply to my own building. This is your strength. Because all modelers can derive information by reading your magazine, no group can really say they feel totally left out by your magazine. As long as the articles continue to detail how a model is built, constructed, assembled, painted, weathered, finished, etc., you'll have readers.

As for scratchbuilding, most modelers want to make a few components — cockpits, landing gear, extra details, and so forth — but building an entire model from scratch is only a dream at best. I for one wouldn't want to see FSM become a scratchbuilders' magazine.

To improve FSM for aircraft modelers, look over a copy of *Scale Aircraft Modelling* from England and *Modelair International* from Malta. What makes these magazines so "hot" is the drawings they supply, most important the camouflage patterns, color profiles, and FS numbers of the colors. An ongoing series like "Italian Camouflage and Markings" or "Air War In the Med." where a certain British, American, German or Italian plane is profiled would really help. If FSM every so often could supply aircraft modelers with camouflage schemes for the various combatants of World War Two and include colors for cockpits, landing gear, wheel bays and engines, plus how to scratchbuild some of the machine guns and cannon used in those aircraft, they'd go wild.

Fred J. Meccia
Skokie, Ill.

I've got three ideas for you to try with FSM. First, instead of simply reviewing a new kit and then dropping it there, why not take one of the reviewed items and either that same month or shortly after do an in-depth article showing what can be done with the kit?

Idea number two: How about articles that deal with taking one of the older kits on the market and showing how, using "modern"

More FSM Reader Forum on page 81

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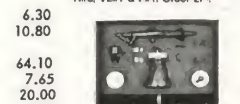
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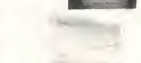
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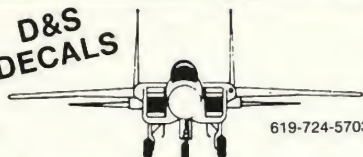
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IN THIS ISSUE

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Vac-form modelling — the Lockheed Model 10 Electra
The Albatross — Grumman's veteran amphibian
plus reviews and much more...

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techniques, it can be brought up to 1985 standards. It would be kind of interesting to see a feature on these oldies from time to time. It seems to me that there are quite a few older kits of all types (planes, cars, ships, armor, and so forth) that could be turned into some real gems with a little work.

Idea number three: GO MONTHLY... please. Waiting for two months for a new issue leaves me with a rash. Seriously, there are many of us out here crying out for even more FSM.

Jeff Brodzik
New Berlin, Wis.

A \$150 "scratchbuilt" tank? As a charter subscriber to FSM, let me compliment you on the best modeling magazine going! And as a scratchbuilder of many years, I commend Robert Skurda on his beautifully written article and equally well done Lynx light tank (September/October 1985). This kind of project is what keeps FSM on top.

However, as fine as the templates and instructions are, I was bothered by the fact that in order to duplicate this model, the reader will have to spend at least \$150 for kits (or have a more-than-extensive scrap box). What do you do with a \$19.50 Tamiya 8-ton half-track kit with no front wheels?

These comments are not meant as any reflection on Mr. Skurda and his beautiful piece of work. But next time, try to make it a little more scratchbuilt and a lot less expensive.

Bill Bosworth
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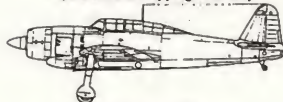
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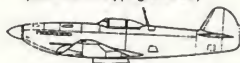
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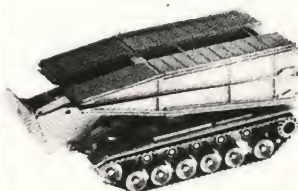


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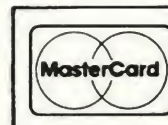
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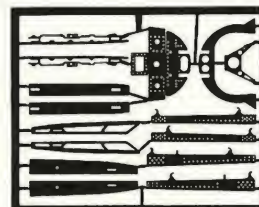
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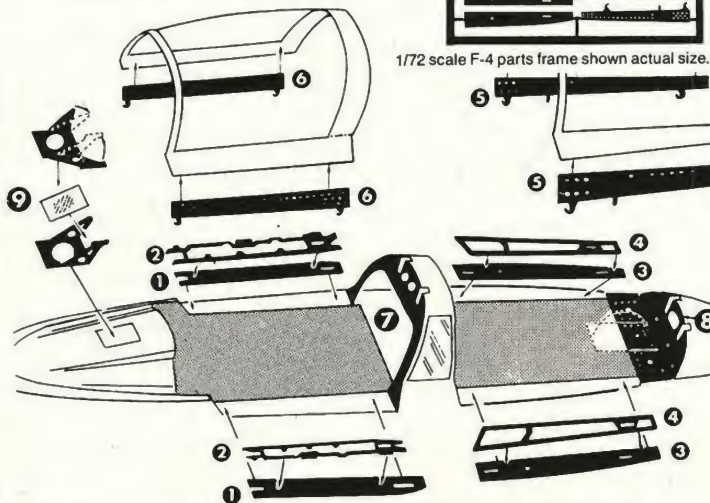
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Flexible guide. I use a draftsman's erasing shield as a guide when scribing panel lines on model aircraft. It's flexible and can bend over contours. Some of the small templates in the shield may match doors and access panels.

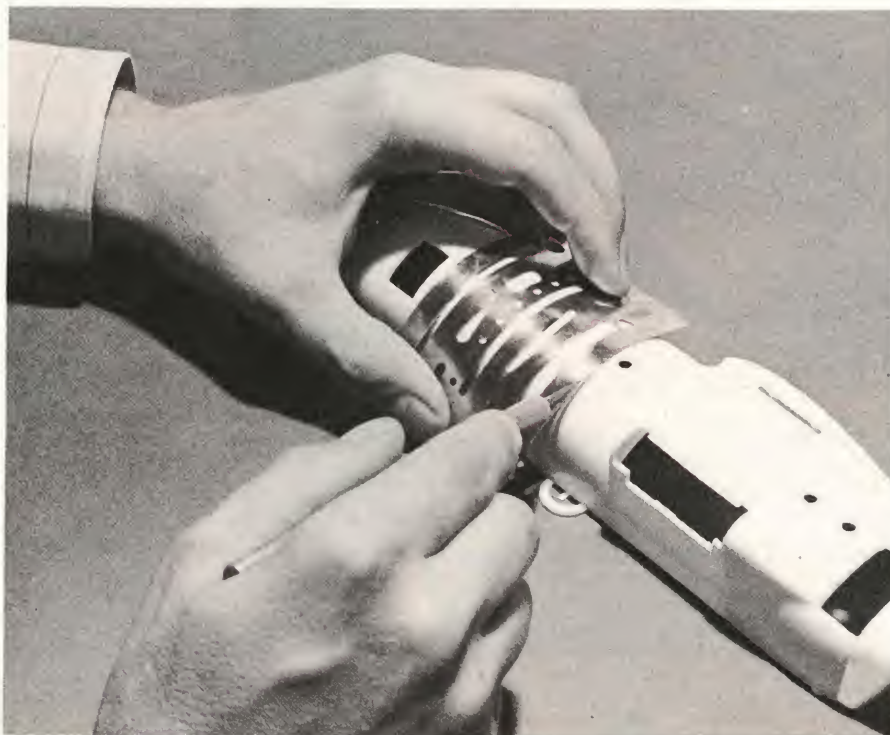
Lee Coll

Realistic weathering. An easy and effective way to produce a streaked, worn look on winter camouflaged vehicles is to paint the proper base colors in acrylics (Polly S, Tamiya, Gunze Sangyo), then spray the white camouflage with an enamel. When this is dry, use enamel thinner to streak and remove some of the white paint. The enamel thinner won't harm the dry acrylic base color.

Bill Wells

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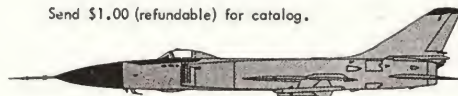
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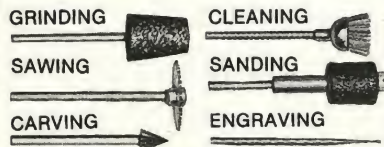
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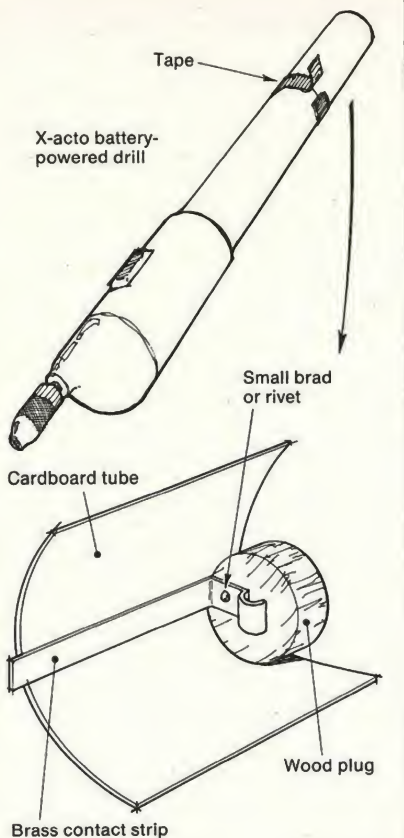
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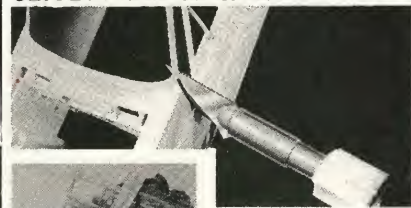
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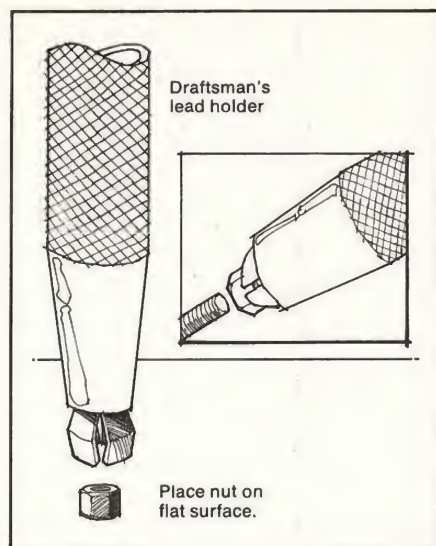
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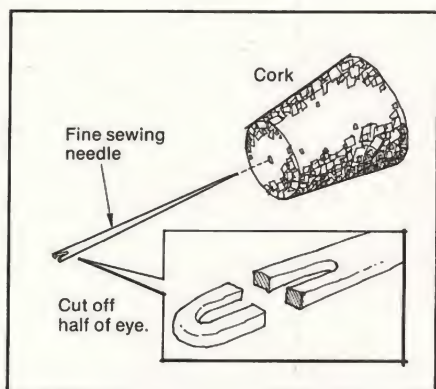
the plug and glue it all the way around. When installed make sure the brass strip makes contact with its counterpart in the drill, then tape the cardboard tube to the drill.

Frank Kappel



Tiny part holder. A draftsman's lead holder is ideal for holding tiny screws and nuts. Place the nut on a flat surface, put the collet over the nut, and tighten the collet. This makes it easier to thread the nut onto a bolt or screw.

Giuseppe Bertocchi



Super glue applicator. Here's my home-made super glue applicator. I cut off the top half of the eye of a fine sewing needle, forming a forked end. The sharp end is put into a cork. Simply dip the open eye into a drop of super glue. A tiny amount of glue will stay in the eye for transfer to your model. The finer the needle, the smaller the drop.

Richard Divald

Heavy irons. Golfer's weight tape (available from most pro shops and used to add more weight to clubs for more striking power) can be cut with scissors and pressed into the nose of a model aircraft to keep it down on the tricycle gear.

Joe Hively

Tacky white glue. While helping my wife mount her cross-stitch work, I discovered Aleen's Original Tacky Glue, from Artis Inc., Solvang, CA 93463. Its tackiness holds pieces in place as it dries and is great for installing windshields and canopies because it dries clear and doesn't affect plastic.

Bob Rogers

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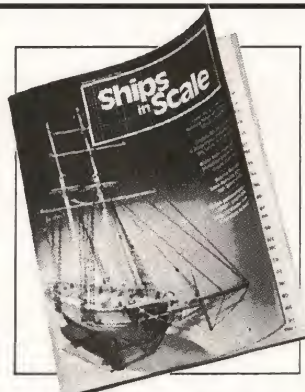
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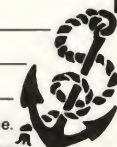
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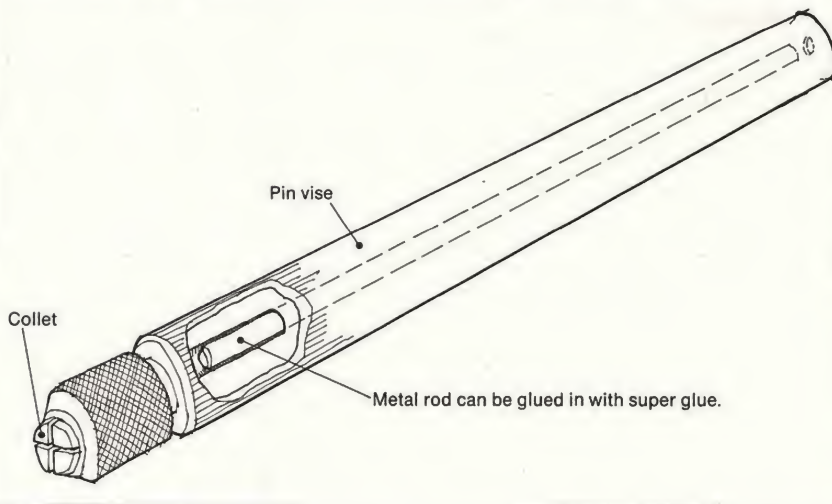
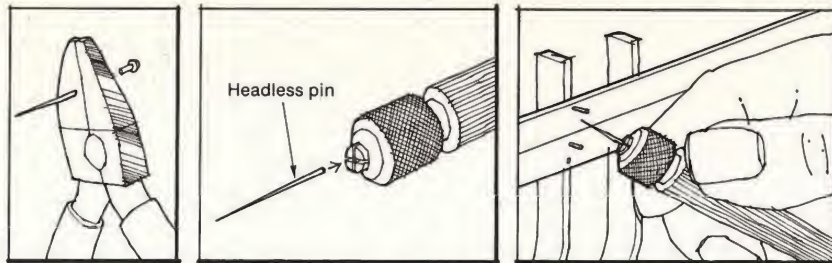
A diagram showing a pin vise, which is a tool used for making small holes in metal. It consists of a handle and a pin. A jeweler's saw blade is inserted into the handle of the pin vise. Labels with arrows point to the 'Pin vise' and the 'Jeweler's saw blade'.

Tinting glass. To tint cockpit glass on my model airplanes I thin Polly S Gloss (PF70) with rubbing alcohol and add a drop of food coloring. This mixture airbrushes well; sometimes more than one coat is necessary to achieve the proper tint. Be sure to let the tint dry between coats or it may puddle. If you make a mistake, it can be washed off with water.

Bob Ferreira

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Pin pusher. I build plank-on-frame model ships and after wearing holes in my fingertips pushing pins into wood, I devised my own pin pusher. I took a standard pin vise and inserted a metal rod inside the body. After cutting the heads off the pins, I insert them in the vise, set the collet so that it holds the pins loosely, and use the tool to push the pins into the model. The excess pin can be cut off with a flush tip cutter.

Norman Emslie

kinked soft plastic model tank tracks from being wrapped up with an elastic band? If so, just warm them with a hair dryer, and they'll straighten out.

Blair Yoshida

Dry transfer idea. One of the drawbacks of using dry-transfer letters on models is getting them on crooked or in the wrong place. To make it easier to position them, I put them on clear decal film. Now they can be put on like any water slide decal.

James Staley
FSM

Straightening tracks. Did you ever have

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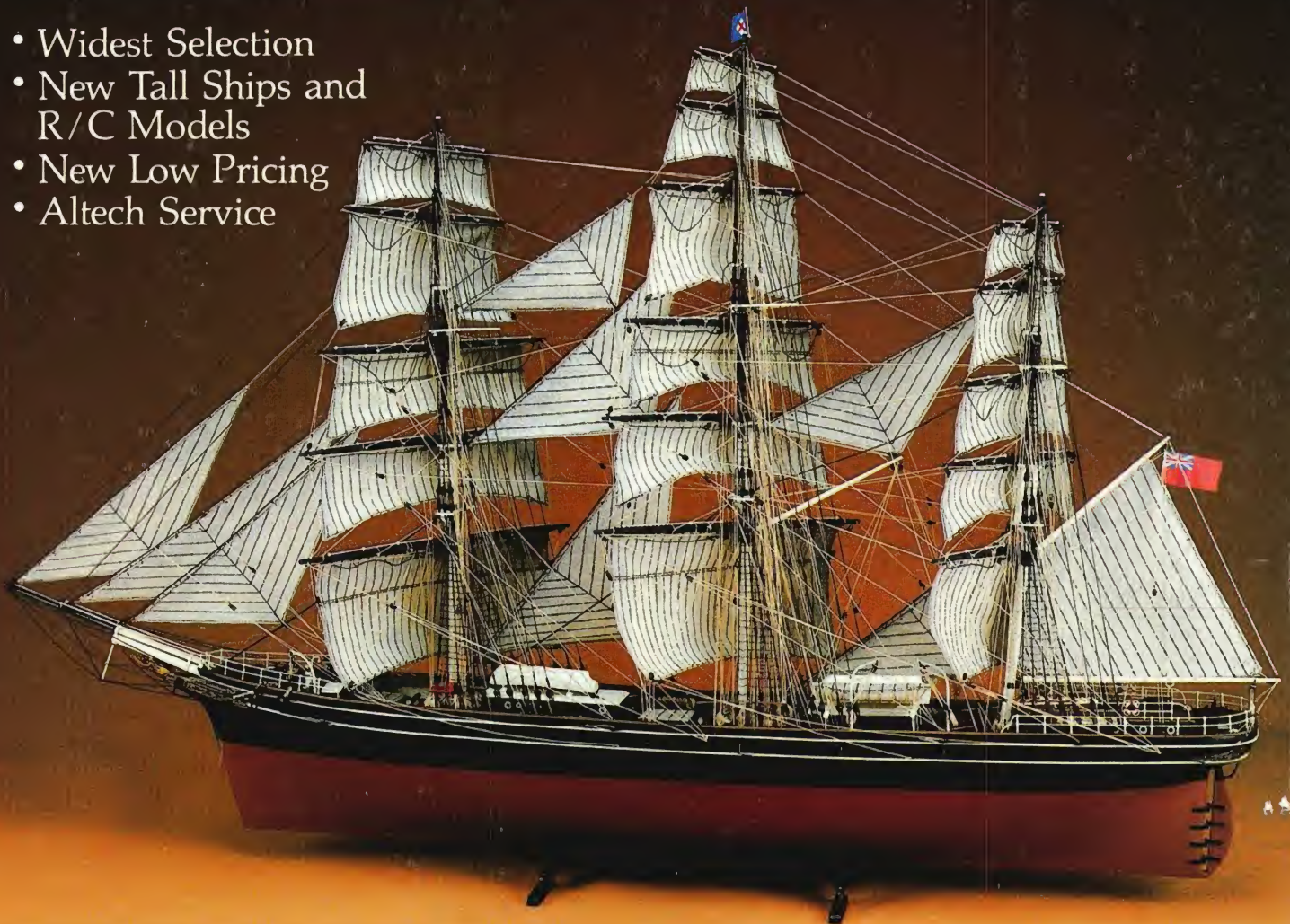
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